731987

FIGURE 1

TIME CLOCK AND CONTROLS

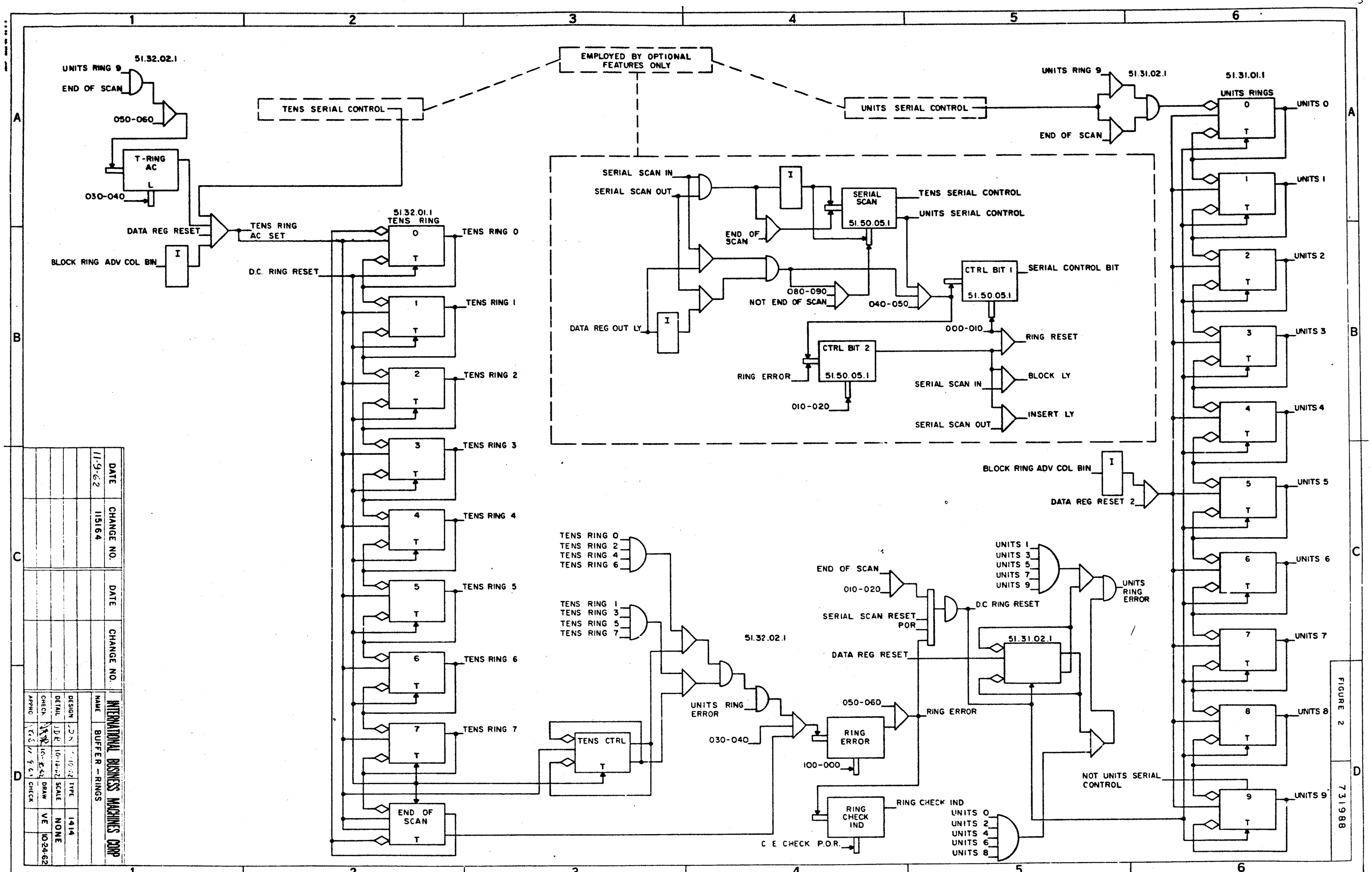
INTERNATIONAL BUSINESS MACHINES CORP

DATE	CHANGE NO.
11-9-62	115164

DATE	CHANGE NO.

NAME	DATE
DESIGN	JDR 10-10-62
DETAIL	JDR 10-10-62
CHECK	JDR 10-30-62
APPRO	FAS. 10-30-62

TYPE 1414
SCALE NONE
DRAW VE 10-19-62
CHECK



DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	11164		

INTERNATIONAL BUSINESS MACHINES CORP

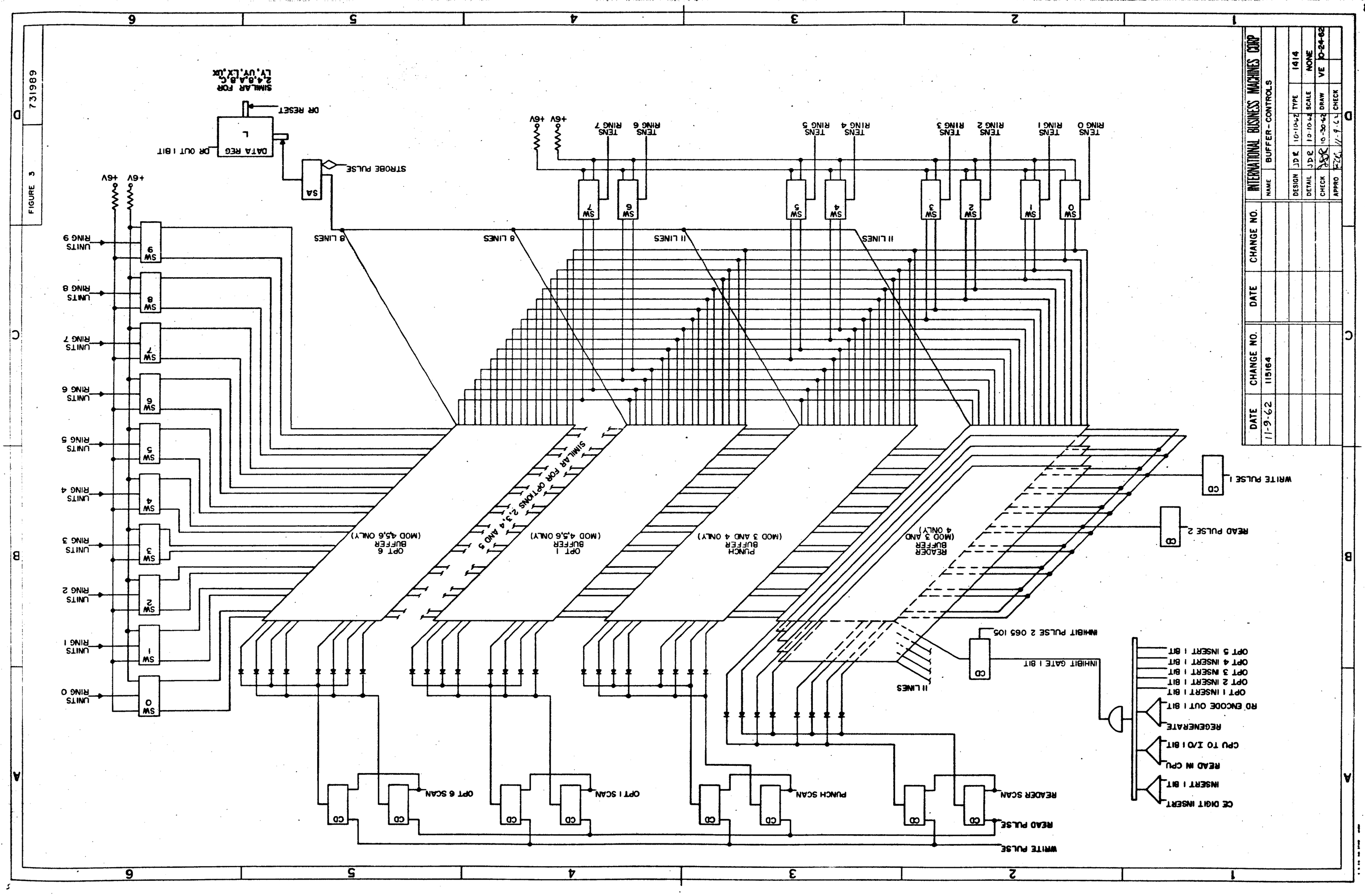
NAME: BUFFER – RINGS

	DESIGN	DETAIL	CHECK	APPRO	CHECK
	JDS	JDS			

TYPE: 1414

SCALE: NONE

DRAW: VE 10-24-62


INTERNATIONAL BUSINESS MACHINES CORP
NAME BUFFER-CONTROLS
DESIGN JDE 10-10-62 TYPE 1414
DETAIL JDE 10-10-62 SCALE NONE
CHECK 10-30-62 DRAW VE 10-24-62
APPRO CHECK
DATE CHANGE NO.
11-9-62 115164
FIGURE 3
731989
SIMILAR FOR OPTIONS 2,3,4 AND 5
OPT 6 BUFFER (MOD 4,5,6 ONLY)
OPT 1 BUFFER (MOD 4,5,6 ONLY)
PUNCH BUFFER (MOD 3 AND 4 ONLY)
READER BUFFER (MOD 3 AND 4 ONLY)
STROBE PULSE
DATA REG
DR OUT 1 BIT
DR RESET
SIMILAR FOR 2,4,6,A,B,C, LV, UV, LX, UX
8 LINES
11 LINES
TENS RING 0
TENS RING 1
TENS RING 2
TENS RING 3
TENS RING 4
TENS RING 5
TENS RING 6
TENS RING 7
+6V
UNITS RING 0
UNITS RING 1
UNITS RING 2
UNITS RING 3
UNITS RING 4
UNITS RING 5
UNITS RING 6
UNITS RING 7
UNITS RING 8
UNITS RING 9
OPT 6 SCAN
OPT 1 SCAN
PUNCH SCAN
READER SCAN
READ PULSE
WRITE PULSE
WRITE PULSE 1
READ PULSE 2
INHIBIT PULSE 2 065 105
INHIBIT GATE 1 BIT
CE DIGIT INSERT
INSERT 1 BIT
READ IN CPU
CPU TO I/O 1 BIT
REGENERATE
RO ENCODE OUT 1 BIT
OPT 1 INSERT 1 BIT
OPT 2 INSERT 1 BIT
OPT 3 INSERT 1 BIT
OPT 4 INSERT 1 BIT
OPT 5 INSERT 1 BIT

READER CTRLS NUMBER 1

TIME 020-030
READY A
READY TO BUFFER
I
READY 2
NOT SOME SCAN
TIME 040-050
READY B
POWER ON RESET
NOT READER BUSY
SELECT UNIT 1
CE RD TRANS GATE
CE GO
END RD SCAN
READ TRF REQ
52.10.09
POWER ON RESET
RD TRF REQ
RD REQ
RD PRI GATE
TIME 080-090
END OF SCAN
RD SCAN
RD PRI REQ
52.10.01
PWR ON RESET
NOT SOME SCAN
END RD SCAN
GATE OFF RD PR REQ COL BIN
L RD TRANS SCAN COL BIN
READ TO PUNCH
PCH TRANS REQ
PCH SCAN
I
80 TH RING POSITION
I
GATE ON RD SCAN COL BIN
RD NOT READY TO DRIVE
INTEGRATED BUFFER
CE READ TRANS GATE
I
RD READY
NOT NU 2 CLCD
READ STOP
CE READ READY 52.11.01
PROC FEED RD
END OF FILE
RD READY TO CPU
DL
BUFFER READY
SELECT UNIT 1
GATE ON RD SCAN
TIME 090-100
I
RD SCAN
RD TFR REQ
RD READY
RD TRANS SCAN
TIME 030-040
TIME 000-010
END OF SCAN
RD SCAN 52.10.02
GATE OFF RD SCAN COL BIN
PWR ON RESET
SOME SCAN
REGENERATE
END OF TRANSFER 1 51.40.12
END OF TRANSFER 2 51.40.12
READY 2
I
DL
BUFFER END OF TRANSFER
SELECT UNIT 1
RESET CPU OR GO
NO
TRANS COND. 51.40.12
POWER ON RESET
GATED MULTI RD FEED
TIME 020-030
STROBE LATCH 51.40.43
I
SELECT UNIT 1
STACKER SELECT
I
MULTI READ FEED
DL
BUFFER NO TRANS COND
I-O TO CPU TRANS
TIME 080-090
DL
BUFFER STROBE

DATE	CHANGE NO.	DATE	CHANGE NO.
5-9-62	114762		
11-9-62	115164		

INTERNATIONAL BUSINESS MACHINES CORP

NAME	READER CONTROLS NO. 1		
DESIGN		TYPE	1414
DETAIL	4-30-62	SCALE	NONE
CHECK	5-30-62	DRAW	VE 2-28-62
APPRO	5-30-62	CHECK	

FIGURE 4

730276

READER CONTROLS NO. 2

READ TRF REQ
1401 MODE
7.5 MS SS
RD INTEGRATE BUFFER SW
RD SELECTED
RD TO PCH SW
RD TO PRT SW
1401 READ LATCH 52.10.08
PWR ON RESET
RD REQ
LAST CARD ENCODE
READ STOP
END OF FILE DELAY 52.11.01
RESET CPU
SEL. UNIT 1
COMP RESET TO BUFFER
END OF FILE 52.11.01
SEL. UNIT 1
DL
BUFFER CONDITIONS
SELECT UNIT 1
DL
BUFFER ERROR
READ ERROR
DI
READ CHECK (1402)
READ FEED LATCH 52.10.08
PWR ON RESET
RD REQ
RD FEED GATE
PROC FEED
END RD SCAN
RD 12 TIME CB
READ FEED T 52.10.09
PWR ON RESET
RD FEED
NOT PROC FEED
MD
RD CLUTCH
CPU TO I-O 8 BIT
CPU TO I-O 1 BIT
NOT CPU TO I-O 2 BIT
NOT CPU TO I-O 4 BIT
SELECT UNIT 1
I-O TO CPU TRANS
NOT STROBE LATCH
READER BUSY
RD READY TO CPU
DL
READER BUSY
READ FEED
NON PROC FEED
MULTI READ FEED 52.10.08
RD TRANS REQ
STACKER SELECT
NOT 1401 MODE
FORMS AND STACKER GO
1401 MODE
RD STK SEL.
CPU TO I-O BIT 2
NOT 0 FROM CPU
STACKER SELECT 2 52.13.02
MD
STACK 2
UNIT 1 SELECT TO I-O
E CH INPUT MODE TO BUFFER
SELECT UNIT 1
DL
BUFFER BUSY
RD STACKER RESET
READ ERROR
CPU TO I-O BIT 1
STACKER SELECT 1 52.13.02
MD
STACK 1
VALIDITY LATCH 52.12.02
VALIDITY IND (1402)
READER C CB
CB C
(SIMILAR FOR B-A-8-4-2-1 CB'S)
C CB L
DATA REG OUT
READ CB'S
ENCODE
51.12.03
RD ENCODE
CB RESET
51.12.01
VALIDITY CHK
RING ERROR
PARITY 1
PARITY 2
PWRD CLOCK ERROR
ENCODE BIT X
RD SCAN
RD 2 ERRORS
COL BIN
HOLE CT ERROR
BRUSH IMP CB
IMP CB LATCH 52.10.01
NOT CB RESET
TIME 020-030
BRUSH S.S. LATCH 52.10.10
BRUSH SS LATCH
TIME 040-050
CB LATCH 52.10.10
1 ST
1 ST RD
BDDR
2 ND
2 ND RD
PARITY 1
PARITY 2
CE CHECK LATCH 51.14.01
CE CHECK
DI
CHK SEARCH INDICATOR (1402)
CHECK SEARCH SWITCH
CE HOLE CT LATCH RESET
BRUSH SINGLE SHOT
BR SS DELAY
TIME 080-090
RD REQ
BRUSH S.S. LATCH
250 USEC SS
100 USEC SS
RD REQ T 52.10.07
END RD SCAN
PWR ON RESET
RD REQ
RD 2 BLOCK LY COL BIN
RD SCAN
ENCODE
READ 12 TIME CB
NO 2 CARD LEVER DELAY
9 RD SCAN
INTEGRATED BUFFER
CHECK SEARCH SW
TIME 060-070
READ CHECK L 52.12.01
DATA REG OUT UPPER Y
HOLE CT TO INH DRVR UP Y
DATA REG OUT LOWER Y
HOLE CT TO INH DRVR LWR Y
NOT BLOCK LOWER Y
DATA REG OUT 1 ST READ
BIT X
READ PULSE 010-040
DATA REG RI Y ACC GATE
DATA REG OUT UPPER X
HOLE CT TO INH DRVR UP X
DATA REG OUT 2 ND READ
DATA REG OUT LOWER X
HOLE CT TO INH DRVR LWR X
Y ACC TRF
RD 9 TIME CB
PWR ON RESET
READ 9 TIME CB
BRUSH SINGLE SHOT

	DATE	CHANGE NO.	DATE	CHANGE NO.
	5-9-62	114762		
	11-9-62	115164		
	2-8-63	115209		

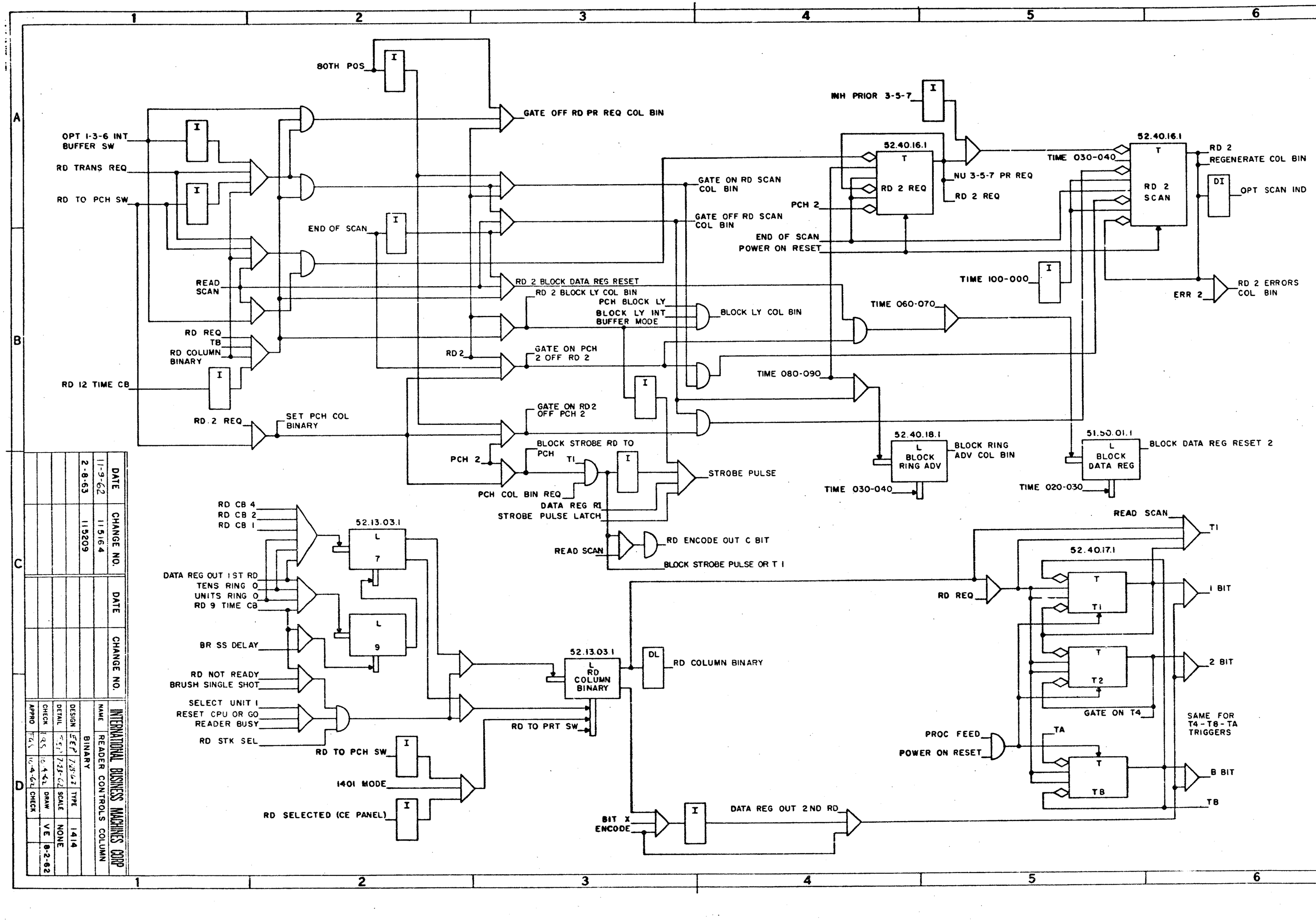
INTERNATIONAL BUSINESS MACHINES CORP

NAME: READER CONTROLS

APPRO	CHECK	DESIGN	
	5-3-62	DETAIL	3262
	5-3-62	DRAW	SCALE: NONE
		VE	2-28-62
		CHECK	TYPE: 1414

FIGURE 5

730277



DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	115164		
2-8-63	115209		

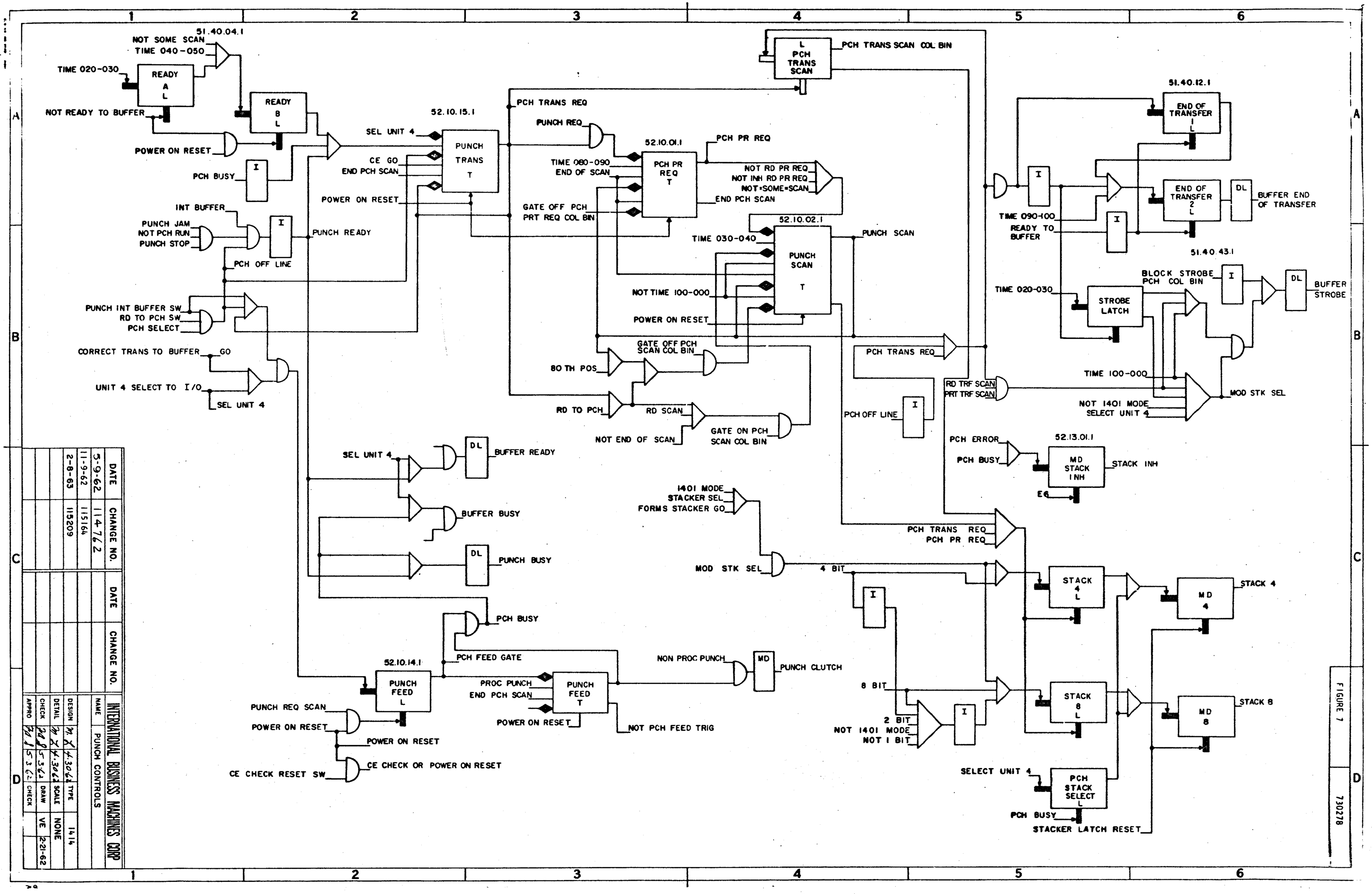
	NAME	DATE	TYPE
DESIGN			1414
DETAIL			SCALE
CHECK			NONE
APPRO			DRAW
CHECK			VE 8-2-62

INTERNATIONAL BUSINESS MACHINES CORP

READER CONTROLS COLUMN BINARY

FIGURE 6

731950



DATE	CHANGE NO.	DATE	CHANGE NO.
5-9-62	114762		
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

NAME: PUNCH CONTROLS

	CHECK	DRAW	TYPE
DESIGN			1414
DETAIL		SCALE	
CHECK		NONE	
APPRO	VE	2-21-62	

FIGURE 7

730278

730279

FIGURE 8

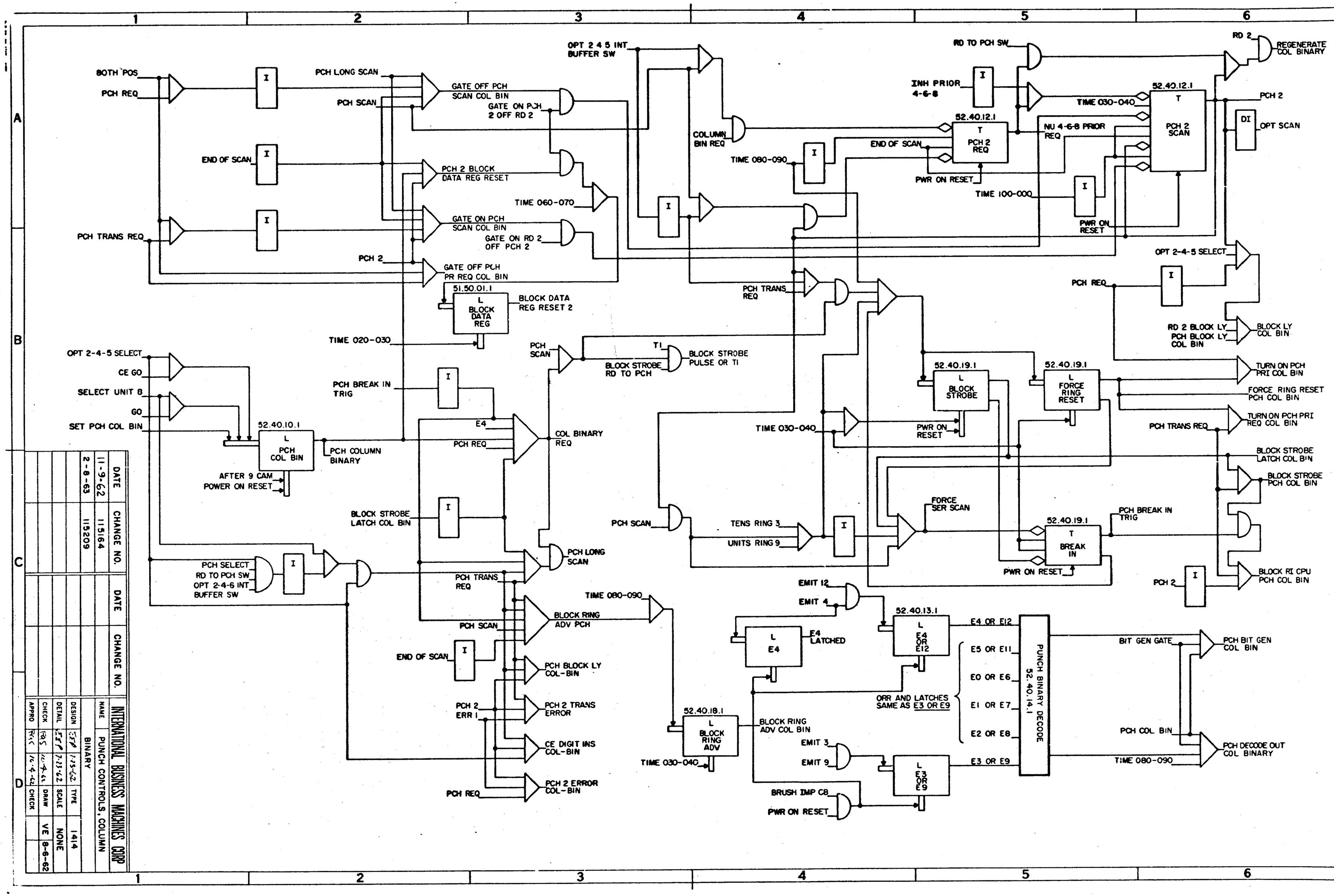
DATE	CHANGE NO.	DATE	CHANGE NO.
5-9-62	114762		
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

NAME PUNCH CONTROLS

DESIGN		TYPE	1414
DETAIL		SCALE	NONE
CHECK		DRAW	VE 2-21-62
APPRO		CHECK	

POWER ON RESET
CE PUNCH FEED
SELECT UNIT 4
RESET CPU
PCH TRF ERROR
PUNCH SCAN
PCH TRANS REQ
PCH 2 TRANS ERROR COL BIN
INVALID CARD CODE
CLOCK ERR
RING ERR
PARITY 1
PARITY 2
NOT CHK SEACH SW
CE HOLE CNT LATCH RESET
CE CHK LATCH
CE CHECK
BIT X
I
DATA REG OUT LOWER X
HOLE CNT TO INH LOWER X
DATA REG OUT PCH 1
TIME 060-070
HOLE CNT ERROR
HOLE CNT TO INH DRVR UP X
DATA REG OUT UPPER X
DL
BUFFER ERROR
DL
BUFFER CONDITIONS
SELECT UNIT 4
PCH CHECK 2
NON PROC PCH
POWER ON RESET
PUNCH REQ
PCH FEED GATE
DI
PUNCH CHECK IND 51.40.01
PCH ERROR
HOLE CNT TO INH DRVR LWR Y
NOT BLOCK LOWER Y
I
DATA REG OUT LOWER Y
INSERT L Y
HOLE CNT TO INH DRVR UP Y
DATA REG OUT UPPER Y
51.14.01
51.13.01
BIT GEN
DATA REG OUT BITS
E1-E2-E11 EMITTERS
I
PCH COLUMN BINARY
PCH CHECK 1
52.12.02.1
TIME 080-100
PCH 2 ERROR COL BIN
TIME 090-100
TIME 080-090
PCH DECODE OUT COL BINARY
I
PCH COLUMN BINARY
UNITS 1
UNITS 0
TENS 7
TENS 1
TENS 0
72
71
12
11
3
2
1
PUNCH MATRIX
52.31.02.1
53.11.03.1
12 PUNCH
11 PUNCH
Q PUNCH 1
Q PUNCH 2
4 PUNCH
5 PUNCH
6 PUNCH
7 PUNCH
8 PUNCH 1
1 PUNCH
2 PUNCH 1
2 PUNCH 2
3 PUNCH
8 PUNCH 2
8 PUNCH 3
8 PUNCH 4
9 PUNCH
51.11.01.1 - 51.11.03.1 PUNCH DECODE
E0-E12 EMITTERS
DATA REG OUT BITS
Y ACC TRF
PUNCH SCAN
E 12
I
Y ACC GATE
POWER ON RESET
PCH BRUSH CL DELAY
PUNCH REQ
T
END PCH SCAN
PCH REQ SCAN
PCH REG
DATA REG RI
READ PULSE 010-040
BLOCK STROBE LATCH COL BIN
PUNCH SCAN
SCAN CB
L
AFTER 9 CAM
L
PCH SCAN CB
AFTER 9 CAM
BRUSH IMPULSE CB
NOT PCH FEED TRIG
52.10.14.1



DATE	CHANGE NO.	DATE	CHANGE NO.		
11-9-62	115164				
2-8-63	115209				

	NAME	DATE
APPRO		
CHECK	RAS	10-4-62
DETAIL	ESP	7-13-62
DESIGN	ESP	7-13-62
CHECK	RAS	10-4-62
DRAW	VE	8-8-62

INTERNATIONAL BUSINESS MACHINES CORP

PUNCH CONTROLS, COLUMN BINARY

TYPE	1414
SCALE	NONE

FIGURE 9

731951

730280

FIGURE 10

DATE	CHANGE NO.
5-9-62	114762
11-9-62	115164

DATE	CHANGE NO.

INTERNATIONAL BUSINESS MACHINES CORP

NAME: PRINTER CONTROLS

DESIGN	[illegible]	4-30-62	TYPE	1414	
DETAIL	[illegible]	4-30-62	SCALE	NONE	
CHECK	[illegible]	5-3-62	DRAW	VE	3-21-62
APPRO	[illegible]	5-3-62	CHECK		

PSS 3 T

PRINT SUBSCAN 3

PSS 2 T

PRINT SUBSCAN 2

PSS 1 T

53.31.01.1

PRINT SUBSCAN 1

PRINT SCAN 16

NOT SCAN

PRINT SCAN 32 T

SIMILAR FOR 2,4,8,16

START FORMS OP

NOT PS 16

NOT SCAN

PRINT SCAN 1 T

53.32.01.1

PRINT SCAN TGR 1

SCAN

READ TIME

TIME 040-050

TIME 020-030

TIME 030-040

HOME PULSE

CHAIN HOME T

53.30.01.1

TIME 000-010

HOME RESET

NOT TIME 020-030

DELAY CTRL

53.45.02.1

I

SS

300 USEC

I

SS

325 USEC

I

SS

500 USEC

PRINT SUBSCAN PULSE

PSS PULSE T

53.30.01.1

TIME 000-010

DRUM PULSE (FROM 1403)

TIME 070-080

TIME 050-060

TIME 030-040

TIME 010-020

TIME 090-100

PRINT SUBSCAN 8

SCAN

I

NOT PSS PULSE

ADVANCE BY 2

TIME 100-000

ADVANCE BY 2 L

DELAY L

53.23.03.1

FIVES RING 5

TENS RING 3

TIME 000-010

SCAN

CMP 4

CMP 2

CMP 8

CMP 1

CMP 2

CMP 4

CMP 8

CMP 4 T

CMP 8 T

CMP 2 T

CMP 4 T

53.33.01.1

NOT CMP 8

NOT CMP 4

NOT CMP 2

NOT CMP 1

NOT CMP 4

NOT CMP 2

NOT CMP 1

CMP 1

CMP 2

CMP 8

NOT CMP 1

PRINT SUBSCAN 1

ADVANCE BY 1

TIME 010-020

PSS PULSE

SCAN

MACH RST 1

SCAN T

53.40.01.1

PRINT SUBSCAN 1

HOME TRIG

NOT AUTO SPACE INTLK

CARR STOPPED

NOT CE MODE

MACH RST 1

SCAN CALL

53.40.01.1

NOT READ IN

PRINT SUBSCAN 1

(FROM PROC) CORRECT TRANS

(FROM PROC) SELECT UNIT 2

I

CHAIN DELAY

CHAIN INTLK

CE MODE

PRINT NOR SW

PRINT INT SW

SINGLE CYCLE SW

READ IN

CHK SEARCH SW

PRT ERROR

CARD READER SCAN

RD TO PRT SW

END OF SCAN

RD TRANS REQ

CE GO

PRINT NOR SW

PRINT INT SW

READ IN

53.40.01.1

RING ADV

GATE ON HOME TGR

TIME 000-010

NOT INSERT C BIT

READ IN

TIME 020-030

STROBE

51.40.43.1

BUFFER STROBE (TO PROC)

TIME 100-000

I

(FROM PROC) SEL UNIT 2

READY 2

I

CHAIN DELAY

SCAN

SCAN CALL

PRINT INT SW

PRINT NOR SW

RD TO PRT SW

RDY L

53.40.01.1

RDY 2

FIVES RING 1

READ IN

(FROM PROC) NOT RDY TO BUFFER

END OF TRANS L

51.40.12.1

TIME 090-100

END OF TRANS 2 L

51.40.12.1

BUFFER END OF TRANSFER (TO PROC)

GT ON HOME TRIGGER

53.23.01.1

TURN OFF RGS L

OFF

HOME T

TENS RINGS
53.20.01 & .02.1

0 1 2 3 4 5 6 7 8 9 T

THREES RG 1
TENS RG 0
FIVES RG 1

53.22.01.1

GT ON HOME TRIG

PRINTER CTRL ERROR
DELAY CTRL

MACH RST 1

PWR ON RST
NOT CE MODE
1401 MODE
COMP RST FROM CPU

MACH RST 4

53.45.02.1

CE MODE
CE CHK RST

SW 0 SW 1 SW 8 SW 9 +6 +6

53.20.03.1

S A

A BIT
B BIT
C BIT
8 BIT
4 BIT
2 BIT
1 BIT
HAM ROW
HAM CHK
PRT LINE
EQ COMP

RD GT PULSE 1

DATA A BIT

DATA REG RESET

TENS RING 3
FIVES RING 5
THREES RING 3

53.23.02.1

SCAN

TO 5 RG ADV TRIG

DIODE IN EACH LINE (30)

PRT SCAN 49
PRT SUB SCAN 3

READ IN
RG ADV
RD IN + SCAN
NOT RING ADV

TENS RG ADV T

D

CHAIN PRINTER BUFFER
53.70.01 TO .51.1

FIVE RG 5
TEN RG 3
SCAN

READ IN
RING ADV + SCAN
NOT RING ADV

THREES RG ADV T

THREES RG 1 T

53.22.02

THREES RG 2 T

THREES RG 3

FIVES RG 5

GT ON FIVES RG 1

THREES RG 3 T

I

GT ON HOME TRIGGER

TIME 020-030
TIME 030-040
TIME 040-050

READ IN + SCAN
NOT DELAY

READ PULSE

WRITE PULSE

WRITE PULSE 070-100

INH A BIT
INH PULSE

8 BIT
C BIT
8 BIT
4 BIT
2 BIT
1 BIT
PRT CHK
PRT LINE
EQ COMP

9

53.10.06.1

FIVES RINGS
53.21.01

GT ON FIVES RG 1
HOME TRIGGER

1 T 2 T 3 T 4 T 5 T

MACH RST 1

SW 1 SW 2 SW 3 SW 4 SW 5

FIVES RG ADV

+6 +6

FROM INPUT OF TENS RING ON GT
TENS RING 9
THREES RG 3
FIVES RINGS 5
TENS RING 3
SCAN

HOME TRIG

(RD IN OR SCAN) + (RGS ADV) NOT RING ADV

FIVES RG ADV T

FIGURE 11

730281

	DATE	CHANGE NO.
	5-9-62	114762
	11-9-62	115164

	DATE	CHANGE NO.

INTERNATIONAL BUSINESS MACHINES CORP

NAME: CHAIN PRINTER

APPRO	CHECK	DETAIL	DESIGN
	5-3-62	5-30-62	4-30-62
CHECK	DRAW	SCALE	TYPE
5-3-62		NONE	1418
	VE	12-22-62	

HAMMER MATRIX

53.62.01.1

TENS RING 0 — C
FIVES RING 1, THREES RING 1 — SET 1.1 — 1 (R1A), 31 (R1C), 61 (R1B), 91 (R1D), 121 (R1D)
FIVES RING 1, THREES RING 2 — SET 2.1 — 2 (R2A), 32 (R2C), 62 (R2B), 92 (R2D), 122 (R2D)
FIVES RING 1, THREES RING 3 — SET 3.1 — 3 (R3C), 33 (R3C), 63 (R3B), 93 (R3D), 123 (R3D)
SET 1.2, SET 2.2, SET 3.2
SET 1.3, SET 2.3, SET 3.3
SET 1.4, SET 2.4, SET 3.4
SET 1.5, SET 2.5, SET 3.5

TENS RING 9 — C
28 (R1A), 58 (R1C), 88 (R1B), 118 (R1D)
29 (R2A), 59 (R2C), 89 (R2B), 119 (R2D)
30 (R3A), 60 (R3C), 90 (R3B), 120 (R3D)

PSS PULSE
SCAN
TIME 010-020
PSS 1, R3B, RESET CHK
PSS 2, R1B, R2A
PSS 3, R2B, R3A
PSS PULSE, TIME 100-000 — MACH RST 4
53.12.01.1 PRINTER CTRL ERROR L
TIME 090-100

PARITY ERR
NOT DELAY
READ IN + SCAN
CLOCK ERR
DELAY CTRL
INH PULSE
PRINT SCAN 49
INH PULSE

D. R. HAM R. B.
NOT D. R. EQ CMP
D. R. EQ CMP
NOT D. R. HAM R. B.
NOT D. R. PRINT LINE COMPL
INH PULSE
NOT EQ CMP
D. R. HAM CHK

PRINT DATA INPUT 1 BIT
PRINT DATA INPUT 2 BIT
PRINT DATA INPUT 8 BIT
PRINT DATA INPUT 4 BIT
D. R. PRINT LINE COMPL
EQ CMP
I
NOT PRINT DATA B
NOT PRINT DATA A
NOT PRINT DATA 8
NOT PRINT DATA 4
NOT PRINT DATA 2
NOT PRINT DATA 1

53.12.01.1 PRINTER ERROR L
PRINTER ERROR
MACH RST 4
RESET CPU
SEL UNIT 2
EXT COND STATUS (TO PROC)

53.34.01.1
DATA REG BITS
COMPARE CTR BITS
EQ CMP
SCAN
NOT PS 49
NOT DELAY
TIME 050-060
TIME 060-070
INH PULSE

53.61.01.1
NOT SCAN
NOT CHAIN DELAY
PRINT SUBSCAN 2
FIVES RING 1
PRINT SUBSCAN 1
PRINT SUBSCAN 3
R3A
R2A
R1A

53.61.01.1 RESET CHECK L
RESET CHK
PSS PULSE
TIME 100-000

EQUAL COMP
HOME PULSE
SCAN
SYNC HOLDOVER L
HOME RESET
SYNC CHECK L
SYNC CHK
CHAIN DELAY

ABOVE SIMILAR FOR OTHER RESETS

	DATE	CHANGE NO.	DATE	CHANGE NO.
	5-9-62	114762		
	11-9-62	115164		

	NAME	DATE
DESIGN	[illegible]	1/26/62
DETAIL	[illegible]	1/26/62
CHECK	[illegible]	1/26/62
APPRO	[illegible]	1/26/62

INTERNATIONAL BUSINESS MACHINES CORP

STATUS — TYPE: 1414 — SCALE: NONE — DRAW: VE 3-21-62 — CHECK:

HAMMER MATRIX AND PRINTER

FIGURE 12

730282

FIGURE 13

730283

INTERNATIONAL BUSINESS MACHINES CORP

NAME: CARR CONTROL CIRCUITS OF CHAIN PRINTER

TYPE: 1414 | SCALE: NONE | DRAW: VE 2-22-62 | CHECK:

DESIGN: E.S. 4-30-62 | DETAIL: K.S. 4-30-62 | CHECK: RHS 5-3-62 | APPRO: RHS 5-3-62

DATE	CHANGE NO.	DATE	CHANGE NO.
5-9-62	114762		
11-9-62	115164		

ABOVE SIMILAR FOR 6,5,4,3,2,1

CCC REG 1 BIT
CCC REG 2 BIT
CCC REG 4 BIT
CCC REG 8 BIT
EMITTER PULSE
CCC DECODE 12
STOP BRUSH 11
CCC DECODE 11
STOP BRUSH 10
CCC DECODE 10
STOP BRUSH 09
CCC DECODE 09
STOP BRUSH 08
CCC DECODE 08
STOP BRUSH 07
CCC DECODE 07
CARR STOP
53.51.04

PRINT TRANSFER
DELAY FORMS L
CCC REG SET A BIT
START FORMS OP
MACH RST 4
PRT IN PROC L
TIME 090-100
SCAN CALL
53.51.06
NOT CCC REG GATE
CARR GO

MANUAL REG RESTORE
CCC REG 1 BIT
CCC REG 2 BIT
CCC REG 4 BIT
CCC REG 8 BIT
I

CPU TO IO B BIT
CPU TO IO A BIT
CCC REG GATE
CCC REG RESET
CCC REG B BIT L
CCC REG A BIT L
ON
53.50.01
FORMS CTRL
RDY FOR PRINT OR FORMS
FORMS BUSY
FORMS AND STACKER GO

ABOVE SIMILAR FOR 8-4-2-1
MACH RST 4
DECELERATE
FORMS STOP
CARR GO
START FORMS OP
SKIP L
SLOW SKIP CTRL
53.54.01

TIME 100-000
CCC REG A BIT
CCC REG B BIT
CCC NOT A BIT
CCC B BIT
SPACE GATE
START FORMS OP
CCC NOT B BIT
CCC A BIT

RESTORE L
MANUAL REG RESTORE
CCC REG RESET
RESTORE BUTTON (1403)
CHANNEL 12
START FORMS OP
CE MODE

SPACE SUPPRESS L
SPACE SUPPRESS
TIME 090-100

SAME FOR 11-2
CARR FAST
CCC DECODE 1
CHANNEL 1
CCC DECODE 12
CHANNEL 12

SPACE L
53.55.01
EMITTER
MACH RST 4
SPACE OR SKIP CTRL
SS
53.55.03
DECELERATE

6MS SS
NOT 140I MODE
SCAN CALL
START FORMS OP
140I MODE
MAN REG SPACE
NOT CCC REG 2 BIT
9 MS SS
NOT CCC REG 1 BIT
15 MS SS
CCC REG 2 BIT
CCC REG 1 BIT

AUTO SPACE L
53.55.01
AUTO SPACE INTLK
CARR STOPPED
MACH RST 4
START FORMS OP

CARR MOVING L
DECELERATE
CARR STOPPED
DECELERATE
MACH RST
FORMS STOP

DELAY RST L
CCC REG A BIT
START FORMS OP
MACH RST 4
FORMS STOP
140I MODE CCC REG RST
CCC REG RST

FAST SKIP CTRL
FORMS STOP
53.55.02

I D LOW STOP — TO LOW SPEED STOP MAGNET (1403)
D LOW START — TO LOW SPEED START MAGNET (1403)
I D FAST STOP — TO HIGH SPEED STOP MAGNET (1403)
D FAST START — TO HIGH SPEED START MAGNET (1403)

CH. 9 IND L
CHANNEL 9 INDICATOR
STOP BRUSH 9
ANY OTHER STOP BRUSH

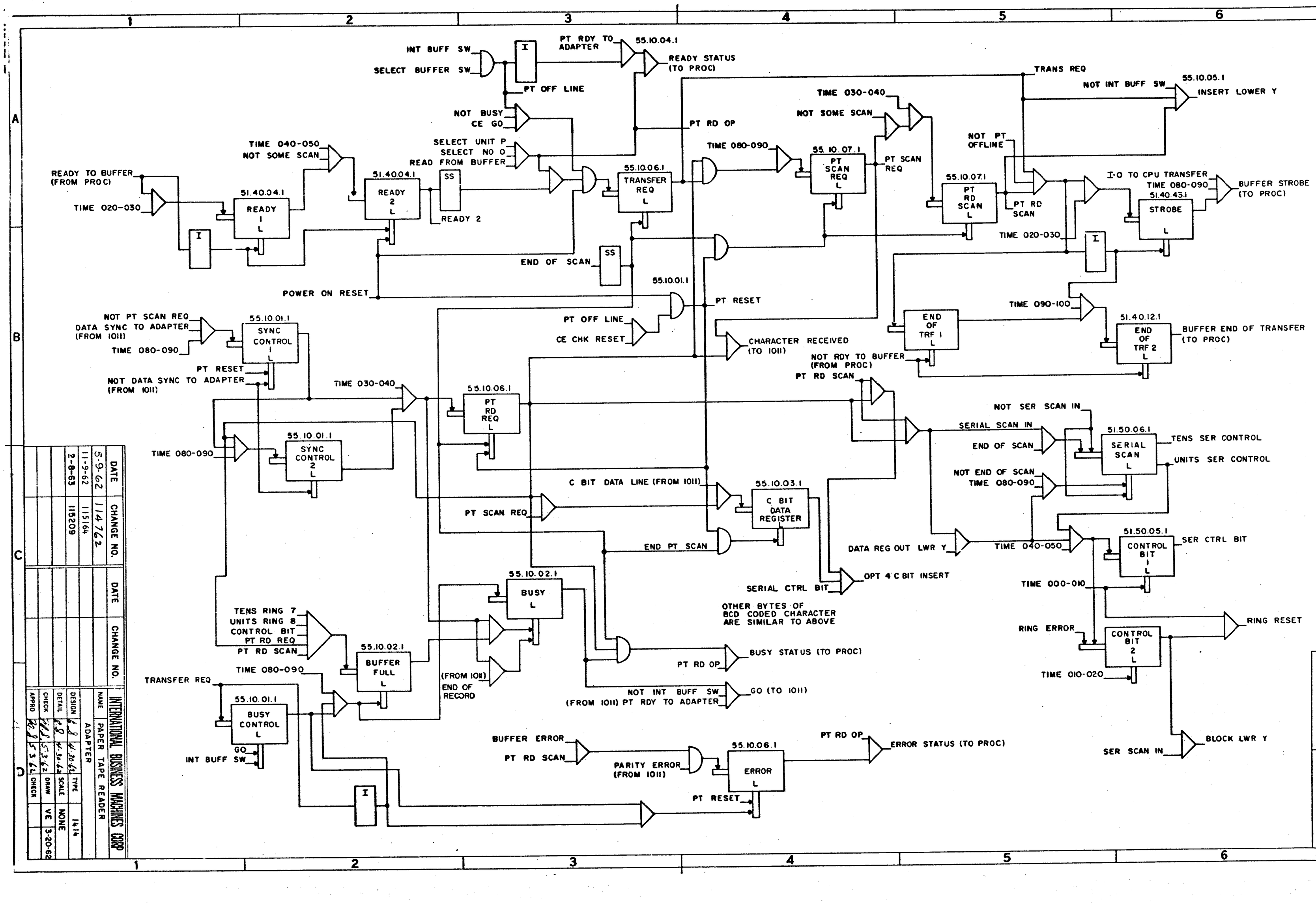
CH. 12 IND L
CHANNEL 12 INDICATOR
53.56.01

CHANNEL 1 L
CHANNEL 1
SLOW BRUSH 1
STOP BRUSH 1 (1403)
SIMILAR FOR 11 → 2

CHANNEL 12 L
CHANNEL 12
SLOW BRUSH 12 (1403)
SIMILAR FOR 11 → 2
STOP BRUSH 12 (1403)
EMITTER (1403)
53.53.01

ANY OTHER BRUSH PWR ON
CCC REG B BIT
A BIT
140I MODE
FORMS AND STACKER GO

DECELERATE
MACH RST
FORMS STOP



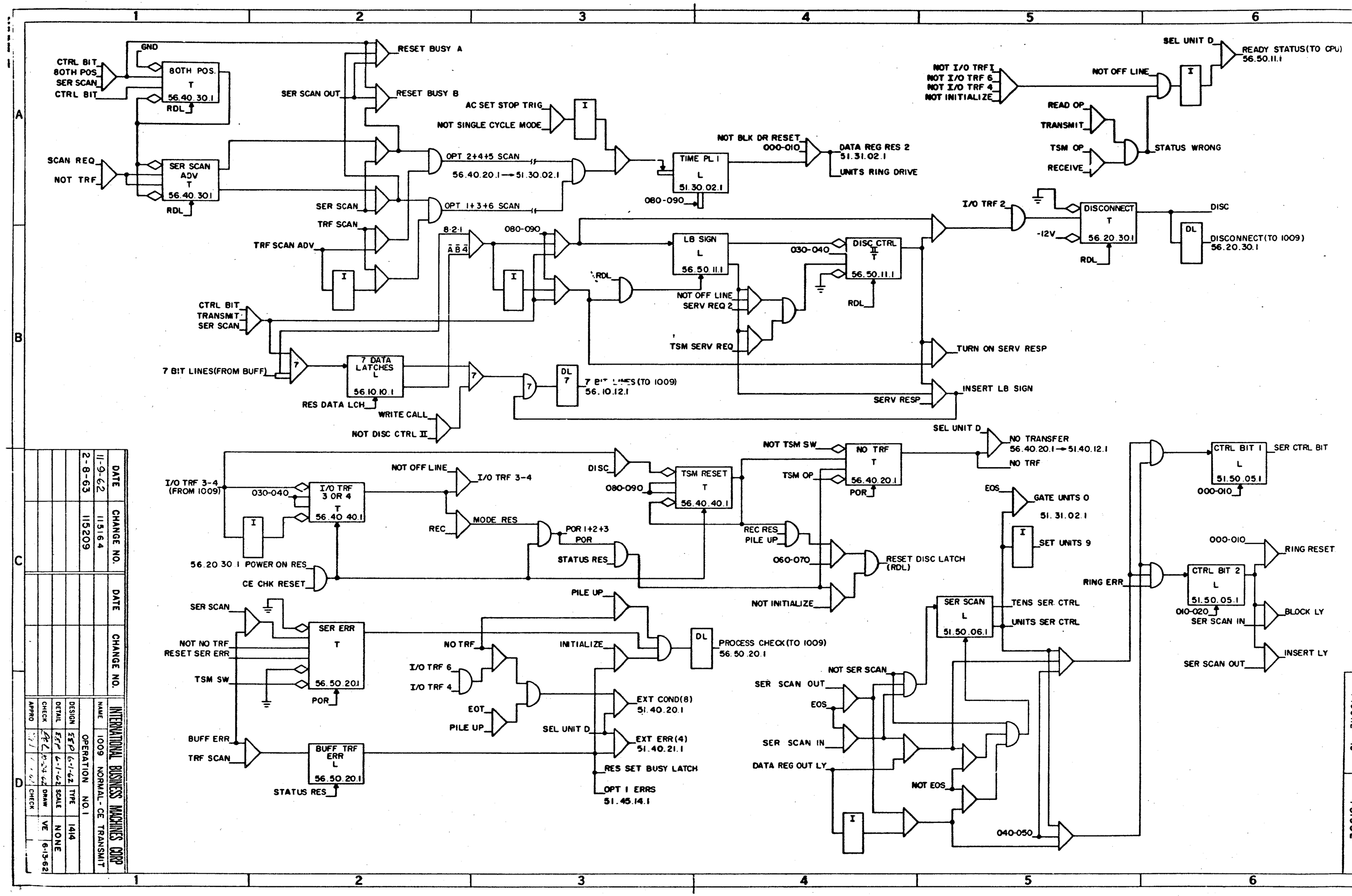
DATE	CHANGE NO.	DATE	CHANGE NO.
5-9-62	114762		
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

	NAME	PAPER TAPE READER
APPRO		ADAPTER
CHECK		
DETAIL		TYPE 1414
DESIGN		
CHECK	DRAW	SCALE NONE
	VE	3-20-62

FIGURE 14

730284



DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

NAME	
1009	NORMAL-CE TRANSMIT
OPERATION	NO. 1
DESIGN	ESP 6-1-62 TYPE 1414
DETAIL	ESP 6-1-62 SCALE NONE
CHECK	DRAW VE 6-13-62
APPRO	CHECK

FIGURE 15

731952

CE GO
I/O TRF 3+4
080-090
EOT
TSM REC T 56.20.10.1
POR
TRANSMIT
TRANSMIT OP
TRF
SEL BUFF 1+3+6
EOT
NOT DIAG ON LINE
SEL BUFF
DL
UNIT CTRL 1 (TO 1009)
DL
UNIT CTRL 2 (TO 1009)
TURN ON READ CALL
READ CALL L 56.20.20.1
RDL
DL
READ CALL (TO 1009)
NOT INH PRI
030-040
EOS
SCAN T 56.30.20.1
TRF
SCAN
TRF SCAN
NOT INT BUFF
INITIAL TRIG
INSERT LY 51.50.07.1
56.50.10.1
BLOCK LY 51.50.07.1
56.30.40.1
REGENERATE 52.10.04.1
FC II
INVERT C BIT 51.50.08.1
NOT BUSY
NOT FC I
TRF I
INITIAL T 56.30.30.1
080-090
SS 2 US
POR
SS 13 US
56.20.20.1
REC
REQ
TRF
080-090
SCAN REQ T 56.30.20.1
PRI REQ
BUSY A
NOT SER SCAN ADV
BUSY B
SER SCAN ADV
FC II
READY
SEL UNIT D
EOS
TRF SCAN
TRF T 56.30.10.1
POR
TRF
TRF SCAN ADV T 56.40.30.1
NOT REC
STA RES
TSM RES
TRANSMIT OP
GO
TSM SW
SEL UNIT D
BUSY STATUS (TO CPU) 51.40.19.1
SCAN A
SER BOTH CHAR
SER SCAN OUT
RDL
BUSY A L 56.40.10.1
TRANSMIT
BUSY
SEL BUFFER 1+3+6
A25A
DIAG ON LINE
A25E
FMT CTRL I T 56.30.40.1
FC I
CE GO
POR
CHK RES
FMT CTRL II T 56.30.40.1
SER SCAN
FC I SER SCAN IN
FC I NOT FC II
FC II SER SCAN OUT
SER BOTH CHAR
SER SCAN ADV
FC I NOT FC II
FC II
L 56.30.40.1
POR
080-090
NOT SEL BUFF
NOT DISC CTRL II
TRANSMIT OP
TRF SCAN
FC II
BUSY
GO
TRANSMIT
TRANSMIT OP
BUSY B L 56.40.10.1
SCAN B
RDL
SET BUSY L 56.50.10.1
TRF ERR
RDL
060-070
080-090
TRF SCAN
TRANSMIT OP
LB SIGN
EOS
I
I
TRF IST LB L 56.50.10.1
POR
030-040
56.60.20.1
SERVICE REQ (FROM 1009) 56.60.20.1
LT
SERV REQ
SERV REQ
TSM SW
ON
ON
EOS
SER SCAN
REQ T 56.30.10.1
56.30.30.1
SS 5 US
SCAN
NOT TRF
SER SCAN
INITIALIZE L 56.20.20.1
POR
NO TRF
END SER SCAN
FROM 10 US S.S.
I
DIAG ON LINE
DIAG CTRL I T 56.60.10.1
DIAG CTRL II T 56.60.10.1
DISC
POR
I
SERV REQ
ASSM READ CALL
SS 5 US
56.20.10.1
DL
SERV RESP (TO 1009)
I
FC I NOT FC II
NOT IST LB SIGN
TURN ON SER RESP
TRANSMIT
SET DIAG ADV
SERV RESP T 56.20.30.1
RDL
TRANSMIT
DL
WRITE CALL (TO 1009)
SS 10 US
56.20.30.1
DL
SELECT I/O ATTACH (TO 1009)

	DATE	CHANGE NO.	DATE	CHANGE NO.
	11-3-62	115164		

INTERNATIONAL BUSINESS MACHINES CORP

	NAME	DATE
APPRO		
CHECK		
DETAIL	KEP	6-1-62
DESIGN	KEP	6-1-62

1009 NORMAL CE TRANSMIT

OPERATION NO. 2 TYPE 1414

CHECK	DRAW	SCALE
	VE 10-13-62	NONE

FIGURE 16

731953

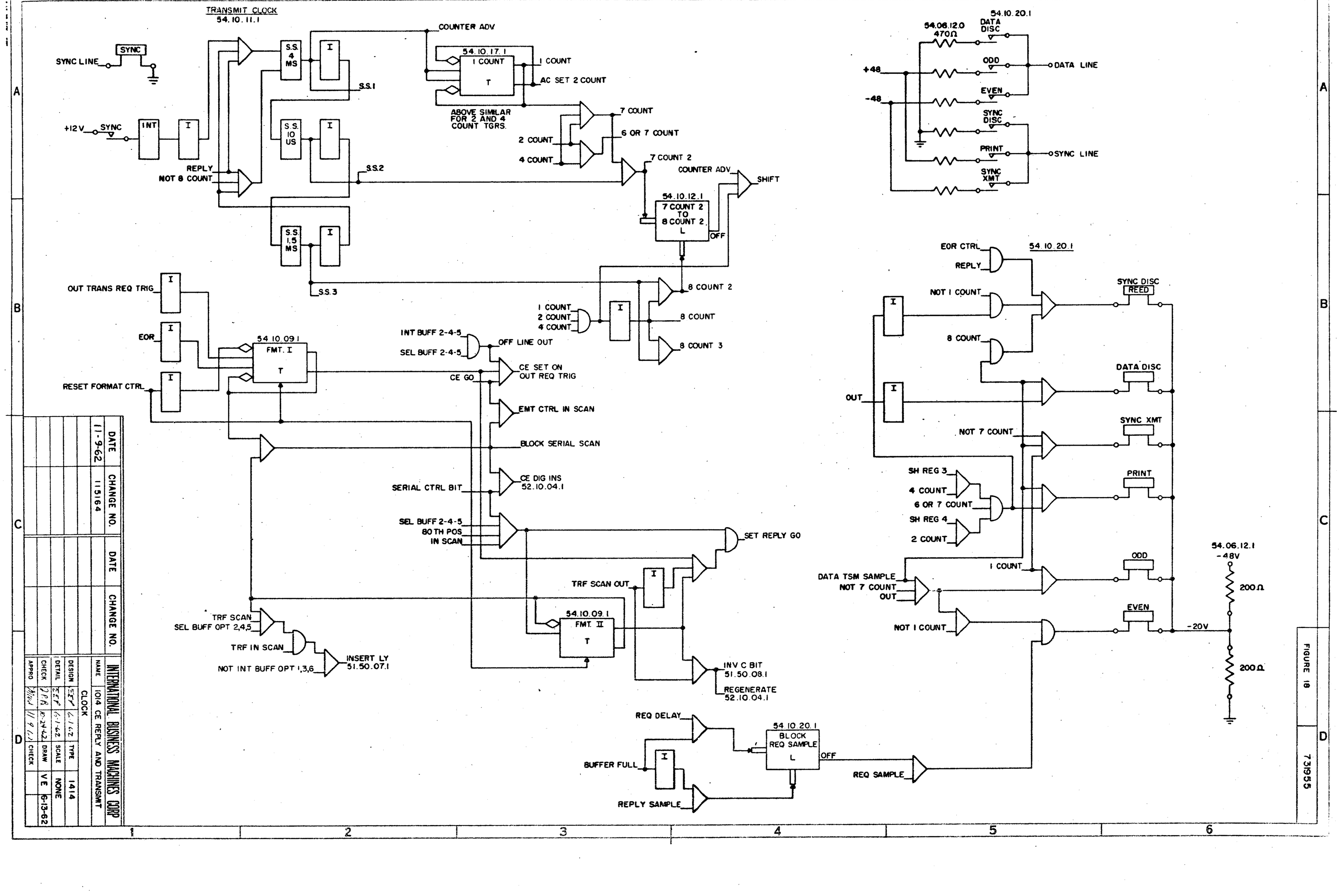
RECEIVE SW.
OPT SEL SW 2-4-5
INT BUFF
OFF LINE
A25A
A25E
DIAG ON LINE
SET NO TRF
RESET NO TRF
080-090
51.50.03.1 C.E. GO
NOT INITIALIZE LATCH
NOT INITIALIZE
NOT PILE UP
NOT OFF LINE
NO TRF
I/O TRF 1
INITIAL T 56.30.30.1
INITIAL TRIG.
56.20.20.1
SS 2 US
SS 13 US
56.30.30.1
TRF SCAN B
BUSY
SEL UNIT D
CPU READY
E.O.S. TRF SCAN
TRF T 56.30.10.1
NOT TRF
I/O TRF 5 (FROM 1009) 56.40.40.1
EOT
NOT TSM SW
030-040
END TRANS T 56.40.40.1
TSM OR REC T 56.20.10.1
TRANSMIT
RECEIVE
MODE RESET
REC
REQ
CE PANEL BIT SWITCHES
RECEIVE SW
DL
7 BIT LINES(TO 1009)
CTRL BIT SER SCAN REC
TURN ON READ CALL
READ CALL L 56.20.20.1
RDL
READ CALL (TO 1009)
UNIT CTRL 1 (TO 1009)
UNIT CTRL 2 (TO 1009)
NO TRF
POR
REC BUSY T 56.40.10.1
REC
SEL UNIT D
BUSY STATUS (TO CPU) 51.40.19.1
NOT OFF LINE
INQUIRY REQUEST 51.40.20.1
EOT
INITIALIZE
REC
80TH POS
INITIAL TRIG
NOT INT BUFF
INSERT LY 51.50.07.1
TRF SCAN
NOT INH PRI
080-090
SCAN REQ T 56.30.20.1
030-040 E.O.S.
SCAN T 56.30.20.1
POR
PRI REQ
EOT
NOT INITIAL TRIG
NOT OFF LINE
NOT INITIAL TRIG
TRF SCAN 51.40.40.1
REC RES
POR
INT BUFF 2-4-5
TRF SCAN ADV T 56.40.30.1
80TH POS CTRL BIT SER SCAN
SER 80TH
SER SCAN ADV T 56.40.30.1
RDL
OPT 2, 4, 5 SCAN 51.30.02.1
OPT 1, 3, 6 SCAN 51.30.02.1
WRITE CALL (TO 1009)
RECEIVE SW
NOT INITIAL TRIG
DIAG ON LINE
DIAG CTRL I T 56.60.10.1
POR
DIAG CTRL II T 56.60.10.1
ASSM 030-060
FROM 10 US S.S.
SERVICE REQ (FROM 1009) 56.60.20.1
NOT SEL BUFF
NOT PILE UP
SER REQ
SET REQ
REQ 56.30.10.1
EOS
SER SCAN
INITIAL TRIG
RECEIVE SW
INITIALIZE L 56.20.20.1
INITIALIZE
POR
NO TRF
SER SCAN
56.30.30.1
SS 5 US
SCAN
NOT TRF
REC
SER SCAN IN
SET REQ
REC
PILE UP
NOT OFF LINE
SERV REQ
SERV RESP T 56.20.30.1
POR
REC
56.20.10.1
SS 5 US
DL
SERV RESP (TO 1009)
BIT LINES (FROM 1009)
SER ERR DATA RES
DATA LATCH L 56.10.10.1
ABOVE SIMILAR FOR DATA LATCHES 2,4,8,A,B,C
ASSM 030-060
SS 10 US
56.20.30.1
DL
SELECT I/O ATTACH (TO 1009)
TURN ON READ CALL
OPT BIT LINES (TO BUFF)
POR
NO TRF CTRL 56.40.20.1
NOT READ OP
SET NO TRF
NOT OFF LINE
SEL UNIT D
NO TRF 51.40.12.1
EOT
PILE UP
NOT TSM SW
STA RES
NO TRF T 56.40.20.1
NO TRF
POR
RES NO TRF

	DATE	CHANGE NO.	DATE	CHANGE NO.
	11-9-62	115164		

APPRO		NAME	1009 NORMAL + DIAGNOSTIC REC		INTERNATIONAL BUSINESS MACHINES CORP
CHECK		OPERATION			
DETAIL	[illegible] 10-24-62	DESIGN	[illegible] 6-[illegible]-62	TYPE	1414
CHECK		DRAW	VE 6-13-62	SCALE	NONE

FIGURE 17

731954



	DATE	CHANGE NO.	DATE	CHANGE NO.
	11-9-62	115164		

	NAME	DATE
DESIGN	CLOCK	11-9-62
DETAIL		
CHECK		
APPRO		

INTERNATIONAL BUSINESS MACHINES CORP

1014 CE REPLY AND TRANSMIT

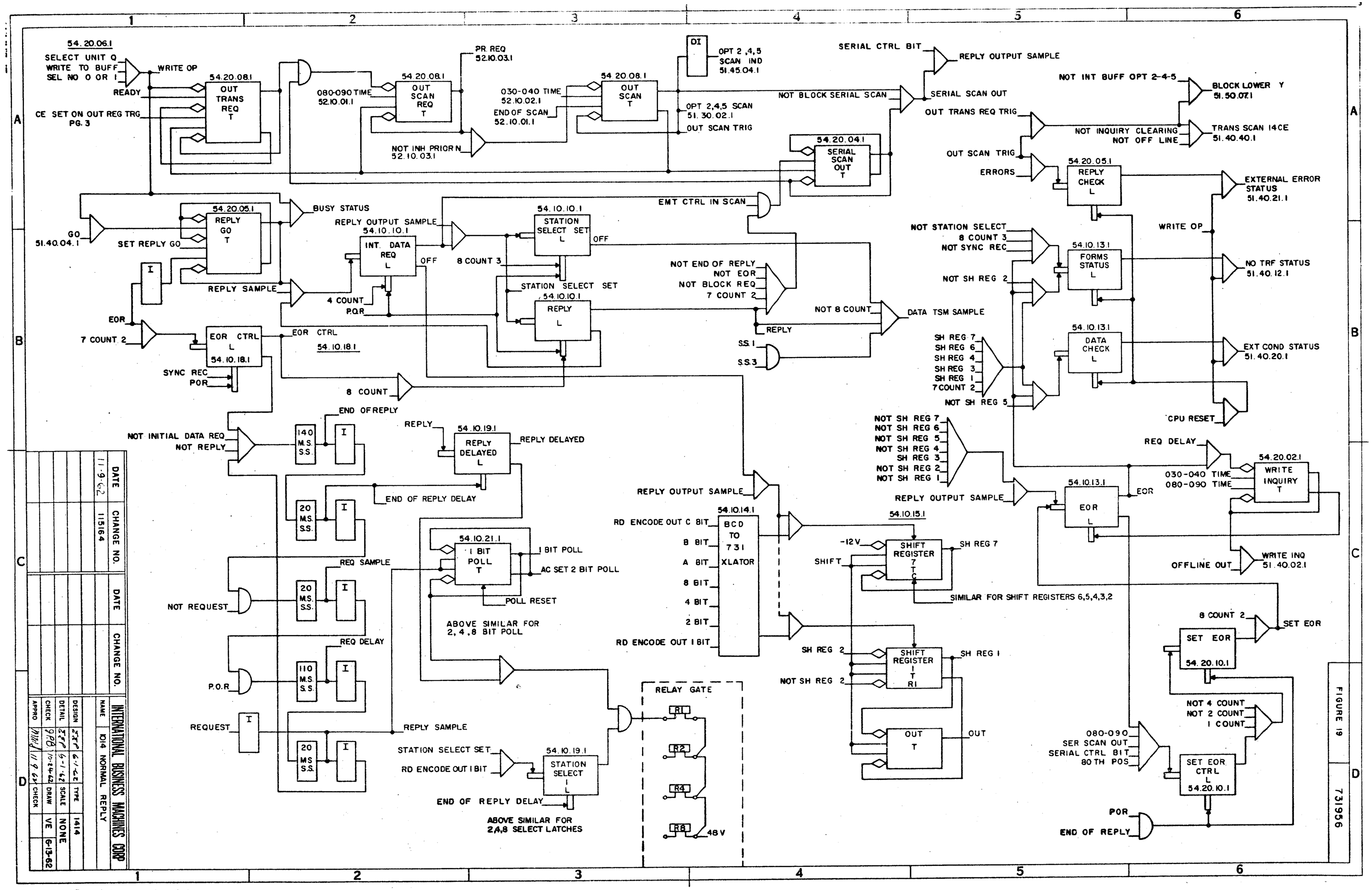
SCALE	TYPE
NONE	1414

DRAWN V.E. 6-13-62

CHECK

FIGURE 18

731955



DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	11516 4		

	NAME	DESIGN	DETAIL	CHECK	APPRO
INTERNATIONAL BUSINESS MACHINES CORP	1014 NORMAL REPLY	ZZZ 6-1-62	ZZZ 6-1-62	GPB 10-24-62	Mike 11-9-62
		TYPE 1414	SCALE NONE	DRAW VE 6-13-62	CHECK

FIGURE 19

731956

SYNC LINE
54.10.22.1
+12V
SYNC REC
INT
RECEIVE CLOCK
54.10.11.1
S.S.1
NOT REPLY
4MS S.S.
I
NO SYNC REC
10US S.S.
REPLY DELAYED
10US S.S.
1.5 MS S.S.
S.S.2
S.S.3
54.10.17.1
I COUNT T
1 COUNT
A.C. SET 2 COUNT
REQ RST
ABOVE SIMILAR FOR 2 AND 4 COUNT TGRS
COUNTER ADV
2 COUNT
4 COUNT
7 COUNT
54.10.12.1
7 COUNT 2 TO 8 COUNT 2 L
OFF
POR
7 COUNT 2
COUNTER ADV
SHIFT
S.S.3
8 COUNT 3
8 COUNT
8 COUNT 2
4 COUNT
REQ DELAY
7 COUNT 2
54.10.10.1
REQUEST L
P.O.R.
BUFFER FULL
INQUIRY CLEARING
54.20.04.1
SERIAL SCAN IN T
SERIAL IN TRIG
POR
INQUIRY CLEARING
080-090 TIME
52.10.01.1
54.20.07.1
IN SCAN REQ T
PR. REQ
52.10.03.1
NOT INH PRIOR
52.10.03.1
030-040 TIME
52.10.02.1
END OF SCAN
52.10.01.1
54.20.07.1
IN SCAN
P.O.R.
IND DR.
OPT 1,3,6 SCAN IND
51.45.04.1
OPT 1,3,6 SCAN
51.30.02.1
IN SCAN TRIG
SERIAL IN TRIG
8 COUNT 2
54.10.17.1
REQ XFER CHECK L
POR.
EXTERNAL CONDITION STATUS
51.40.20.1
BUFFER FULL
CPU RESET
READ OP
IN SCAN TRIG
ERRORS
54.20.03.1
REQ. CHECK L
EXTERNAL ERROR STATUS
51.40.21.1
80 TH POS ERR.
INQUIRY CLEARING
TRF IN SCAN
CPU RESET
SERIAL IN TRIG
IN SCAN TRIG
54.20.03.1
REQ CHECK CTRL L
ON
BLOCK SERIAL SCAN
OUT SCAN TRIG
SERIAL SCAN OUT TRIG
SERIAL SCAN IN
READ FROM BUFFER
SEL UNIT 0
SEL NO 0 OR 1
READ OP
READY FROM PROC
SEL BUFF 1,3,6
INT BUFF 1,3,6
OFF LINE TN
BUFFER FULL
CE. GO
54.20.07.1
P.O.R.
IN TRAN REQ T
IN TRANS REQ
TRF IN SCAN
54.10.22.1
DATA LINE
1 DATA REC
2 DATA REC
SERIAL IN
SERIAL CTRL BIT
NOT REQ DELAY
REG INPUT SAMPLE
80 TH POS.
51.10.16.1
54.10.15.1
SHIFT REGISTER 7 T
-12V
SH REG 7
NOT REPLY
S.S.2
I COUNT
REC 1
REC 2
NOT I COUNT
SHIFT
SHIFT REGISTER 6 T
SH REG 6
P.O.R.
ABOVE SIMILAR FOR SHIFT REGISTER POS. 5,4,3,2,1
SS 4 MS
I
DATA TIMING
REQUEST
NO SYNC REC
GATE CLEAR
INSERT C BIT
OPT 1,3,6 "C" BIT INSERT
51.16.04.1
OPT 1,3,6 "B" BIT INSERT
51.16.03.1
SH REG 1
OPT 1,3,6 "1" BIT INSERT
51.16.01.1
1 BIT POLL
SERIAL IN
SERIAL CTRL BIT
REQ DELAY
POLLED STATION SELECT
54.20.01.1
RELEASE L
ON
OFF
REQ DELAY
80TH POS. ERR
54.20.01.1
80TH POS L
REQ DELAY
P.O.R.
8 COUNT 2
REQUEST
54.20.01.1
RELEASE T
BUFFER FULL
SH REG 5
SH REG 2
SH REG 7
SH REG 6
SH REG 4
SH REG 3
SH REG 1
7 COUNT 2
GATE CLEAR
54.20.01.1
CLEAR T
INQUIRY CLEARING
NOT SH REG 2
NOT SH REG 5
DATA TIMING
IN SCAN
P.O.R.
TRF IN SCAN
I
TRF IN SCAN
NOT OFF LINE
INQ REQUEST TO PROC
51.40.20.1
READ OP
READY TO BUFFER
51.40.18.1
TRANS SCAN 14CE
51.40.40.1

DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

	NAME	DATE
APPRO		
CHECK		
DETAIL	1014 NORMAL REQUEST	6-1-62
CHECK		6-13-62
DESIGN		6-1-62
DRAW		6-13-62
TYPE	1414	
SCALE	NONE	

FIGURE 20

7 31 1957

(FROM BUFFER)RD ENCODE OUT 1 BIT
57.20.01.1
(FROM TTY)1 BIT
SERIAL SCAN IN
CHARACTER REQUEST
SIMILAR FOR OTHER BITS IN BCD AND TTY CODES
(FROM BUFFER) RD ENCODE OUT B BIT
FIGURES
(FROM BUFFER) RD ENCODE OUT C BIT
I
DR
57.20.03.1
CHAR READY
+6V
SW
SET TTY TO BCD
R.O. TTY TO BCD
57.20.07.1
CHAR REQUEST
R.O. BCD TO TTY
SET BCD TO TTY
TRANSLATOR CORE PLANES
R
+6V
57.20.03.1
NOT DELETE CHARACTER
NOT EOR CHECK
SERIAL SCAN IN
CHAR READY
GND
GATE INHIBIT SAMPLE
CHAR REQUEST
000-010
57.20.06.1
060-070
INHIBIT SAMPLE
57.20.06.1
CONTROL BIT
RD ENCODE C
RD ENCODE B
RD ENCODE A
RD ENCODE 8
RD ENCODE 4
RD ENCODE 2
RD ENCODE 1
END OF TEXT
SET SAMPLE PULSE T
090-100
SENSE STROBE T
030-040
-12V
SET DRIVE
R.O. DRIVE
57.20.07.1
CONTROL BIT
CHAR READY TTY
SA
OUT REG A
OUT REG B
OUT REG C
OUT REG D
OUT REG E
OUT REG F
OUT REG G
57.20.08.1
030-040
SELECT
57.20.09.1
1 BIT INSERT
2 BIT INSERT
4 BIT INSERT
8 BIT INSERT
A BIT INSERT
B BIT INSERT
C BIT INSERT
LINE DISC
INSERT
57.02.10.1
Q REG 1 BIT
Q REG 2 BIT
Q REG 3 BIT
Q REG 4 BIT
Q REG 5 BIT
57.02.12.1
1 BIT TO LINE
2 BIT TO LINE
3 BIT TO LINE
4 BIT TO LINE
5 BIT TO LINE
LETTERS
TTY REQ SEND

DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	11164		
2-8-63	11209		

INTERNATIONAL BUSINESS MACHINES CORP

NAME: TELEGRAPH TRANSLATOR

DESIGN	JDK 10-10-62	TYPE	1414
DETAIL	JDK 10-10-62	SCALE	NONE
CHECK	[illegible] 10-26-62	DRAW	VE 10-23-62
APPRO	[illegible]	CHECK	

FIGURE 21

7319.58

731959

FIGURE 22

DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	115164		
2-8-63	115209		

INTERNATIONAL BUSINESS MACHINES CORP

NAME: TELEGRAPH SEND OPERATION

DESIGN	[illegible]	TYPE	1414		
DETAIL	[illegible]	SCALE	NONE		
CHECK	[illegible]	DRAW	VE	6-13-62	
APPRO	[illegible]	CHECK			

(FROM PROC)NOT RDY TO BUFFER
END OF TRANS 1 — 51.40.12.1 L
END OF TRANS 2 — 51.40.12.1 L
BUFFER END OF TRANSFER (TO PROC)
090-100
CHARACTER REQ (TO XLATOR)
080-090
END OF TEXT
SELECT — 57.02.11.1 T — CONTROL BIT 040-050
ERROR RESET
CHECK — 57.02.16.1 L
EXT COND STATUS
END OF CYCLE XLATE DATA
XLATE CHK
(FROM BUFFER)ERRORS
TTY OP OUT
SEND CHECK — 57.02.17.1 L
EXT ERR STATUS
STROBE — 51.40.43.1 L
BUFFER STROBE (TO PROC) 080-090
CPU-TO-I/O-TRANSFER
020-030
TTY-SERIAL-SCAN-OUT
P.O.R.
XFER REQ — 57.02.16.1 T — END OF SCAN, CE GO, OFF LINE TRF GATE, (FROM PROC)READY, WRITE TO BUFFER, SELECT UNIT L, SELECT NO
TTY XFER SCAN OUT
TTY OP OUT
(FROM-TTY) SET CYCLE TIMING
NOT TTY REQ SEND
INSERT
SEND RUN IND
TTY BUSY TO PROC
START(TO TTY) — DR
(FROM TTY)SEND READY
TTY BUSY
POWER ON RST
SEND BUSY — 57.02.17.1 L
PRI SET — 57.02.17.1 T — END OF SCAN 080-090
SCAN — 57.02.17.1 T — END OF SCAN 030-040
TTY SCAN OUT
PRIOR REQUEST
NOT INH PRIOR
XFER REQ
(FROM TTY)SEND READY
NOT INSERT
SEND REQ(TO TTY)(TO IND) — DR 57.02.15.1
NOT-SINGLE-CYCLE
CYCLE TIMING — 57.02.14.1 T — GND, SELECT, (FROM TTY)SET CYCLE TIMING, NOT INSERT, GND
TTY REQ SEND
REQ RESET
080-090
SELECT, BOTH RING POS, CTRL BIT
NO TRF STATUS
TTY OP OUT
ERROR RESET
NO TRF — 57.02.7.1 T
(FROM TTY)NOT SEND RDY
SEND REQ PULSE — P.O.R.
TTY OP OUT
RESET CPU
080-090
GROUP MARK — 57.02.15.1 L
END OF TEXT (ALL BITS FROM TRANSL)
SELECT
SEND=REQ PULSE
NO XFER COND
P.O.R.
SEND REQ (BID) T — GND
SET CYCLE TIMING
BID OFF LINE
(FROM PROC)60
TTY OP OUT
SEND REQ PULSE-CTRL
(FROM-TTY)SET-CYCLE-TIMING
SEND-REQ-PULSE-CTR
POR
GND
INSERT — 57.02.5.1 T — GND, GND, GND
FIGS — LTRS
LTRS
FIGS=TRANS
EOC=TRANSLATE STROBE
LTRS=TRANS
SEND-REQ-PULSE-CTRL
P.O.R.
REGEN CTRL — 57.02.19.1 T — -12V, GND
CONTROL BIT
BOTH RING POSITION
REGENERATE
BID-OFF-LINE
TTY XFER SCAN OUT
NOT INT BUFF SW
BLK LY
CONTROL BIT
CE DIG INS
TTY-CE-RESET
POR
FORMAT CTRL — 57.02.19.1 L
END OF SCAN
OPT 6 SELECT
INSERT LY
DELETE INS
INSERT LY
DELETE INS

NOT HALF DUPLEX CE FDX TEST
(FROM TTY) 1 BIT, 2 BIT, 3 BIT, 4 BIT, NOT 5 BIT FIGURES
(FROM TTY) TTY READ
START
GND
-12 VOLTS
TEXT 57.01.04.1
RESET I
REC RUN IND
(FROM TTY) TTY READ
EOR-CHECK
END OF SCAN SERIAL SCAN IN
GND
CHAR READY 57.01.05.1
TTY REQ IN
RESET I
NOT-REC-SINGLE CYCLE
EOR CHECK
(FROM TTY) NOT REC REQ
FORMAT CHK 57.01.04.1
FORMAT CHK
NOT MESSAGE LOST
(FROM TTY) REC REQ
REC READY (TO TTY) (TO IND)
EOR-CHECK
080-090
END OF SCAN
TTY SCAN IN
PRIORITY 57.01.07.1
P.O.R.
TTY-OP-IN
NO-TRF-STATUS
NOT TTY OFF LINE
NOT REC-BUSY
(FROM TTY) NOT 1 BIT, 2 BIT, NOT 3 BIT, NOT 4 BIT, 5 BIT FIGURES
STOP
RESET I
GND
PRIORITY
TTY BUSY
CUSTOMER OPTION
TTY TRANSFER SCAN IN
80TH POS
P.O.R.
RECEIVE BUSY 57.01.08.1
REC BUSY
INT BUFF
(FROM TTY) NOT 1 BIT, NOT 2 BIT, NOT 3 BIT, 4 BIT, NOT 5 BIT
CARR RETURN
DELETE-CHARACTER=1
CE TEST REC
SELECT BUFFER
INT BUFFER
TTY OFF LINE IN
NOT EXT CONDITIONS
NOT REC BUSY
P.O.R.
CE GO
XFER 57.01.07.1 T
(FROM CPU) READY
END OF SCAN
TTY SCAN IN
(FROM CPU) SEL UNIT L
(FROM CPU) SEL NO
(FROM CPU) READ FROM BUFFER
TTY OP IN
PRIORITY-REQUEST
NOT-INHIBIT PRIORITY
030-040
END-OF-SCAN
GND
SCAN 57.01.08.1
P.O.R.
TTY-SCAN-IN
TTY-REQ-IN
NOT-XFER
TTY-SERIAL SCAN-IN
(FROM TTY) NOT 1 BIT, NOT 3 BIT, NOT 4 BIT, NOT 5 BIT
LINE FEED
(FROM TTY) 1 BIT, 2 BIT, 3 BIT, 4 BIT, 5 BIT
LETTERS
(FROM TTY) TTY READ
FIGS 57.01.02.1
FIGURES
P.O.R.
1 BIT, 2 BIT, NOT 3 BIT, 4 BIT, 5 BIT
FIGS
DELETE CHAR.
TTY READ STROBE
OPTIONAL
TTY READ STROBE, NOT 1 BIT, NOT 2 BIT, 3 BIT, NOT 4 BIT, NOT 5 BIT
SPACE
SER SCAN IN
INT BUFF
NOT-INT-BUFFER
TTY-TRANSFER-SCAN-IN
I/O-TO-CPU-XFER
100-000
BUFFER STROBE (TO-PROC)
020-030
STROBE 51.40.43.1
I
090-100
END OF TRANS 1 51.40.12.1
END OF TRANS 2 51.40.12.1
BUFFER END OF TRANSFER (TO-PROC)
NOT RDY TO BUF (FROM PROC)
(FROM TTY) TTY READ
TTY REQ IN
MESSAGE LOST 57.01.04.1
RESET I
TTY SCAN IN
(FROM BUFFER CTRLS) ERR 1
FORMAT CHECK
TTY OP IN
ERROR STATUS
SER SCAN IN
NOT DELETE CHAR
NOT EOR
SERVICE RESPONSE 57.01.08.1
SERVICE RESPONSE
TTY REQ IN
NOT TTY READ (FROM TTY)
SINGLE CYCLE
RUN
TTY STATUS RESET IN
NOT TTY BUSY
DATA CHECK 57.01.09.1
DATA CHECK LATCH
030-040
STOP
EOR CHECK
80TH POS
CONTROL BIT
EOR RESET 57.01.09.1
TTY-CE-REST
P.O.R.
RESET-I
080-090
BUSY RESET
GND
EXTERNAL CONDITION 57.01.04.1
P.O.R.
EXTERNAL CONDITION 57.01.04.1
TTY OP IN
EXT COND STATUS (TO-PROC)
(FROM PROC) +S GO
TTY OP IN
TTY OFF LINE
TTY XFER SCAN
80 TH RING POS
P.O.R.
(FROM PROC) RESET CPU
REC BUSY
(FROM TTY) REC REQ
TEXT
EOR CHECK
TTY OP IN
BUSY STATUS

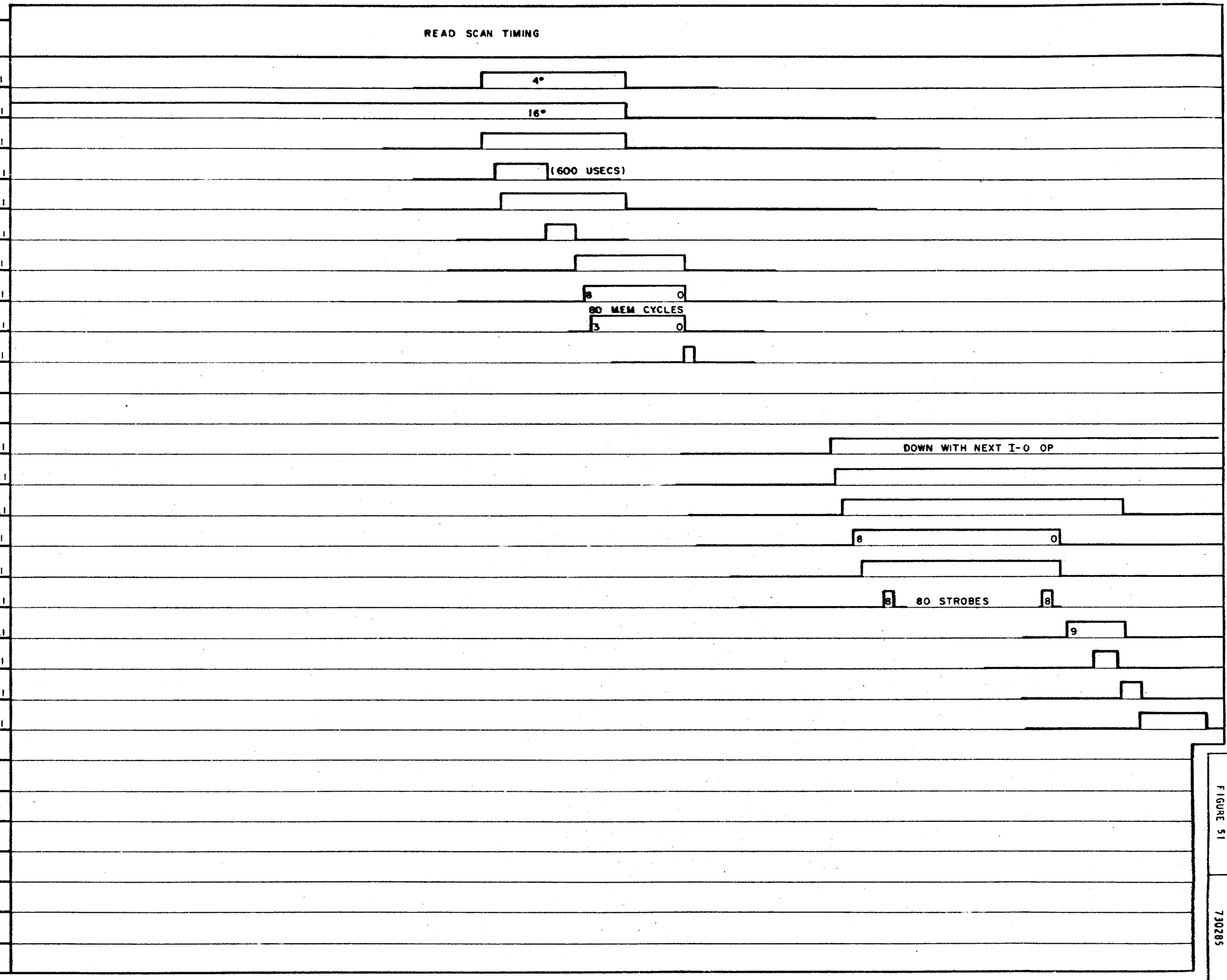
DATE	CHANGE NO.	DATE	CHANGE NO.
11-9-62	11516 4		
2-8-63	11520 9		

	NAME	DATE
DESIGN	RFF	6-1-62
DETAIL	RFF	6-1-62
CHECK	DCR	10-23-62
APPRO	[illegible]	11-9-62
CHECK		

INTERNATIONAL BUSINESS MACHINES CORP
TELEGRAPH RECEIVE OPERATION
TYPE 1414
SCALE NONE
DRAW VE 6-13-62

FIGURE 23
731960

	SIGNAL NAME	FR GT	TP	LOGIC
1	-W BRUSH IMPULSE CB	14A4	G25H	52.10.10.1
2	-W CB RESET	14A4	G25G	52.10.10.1
3	+S CB LATCH	14A4	E09F	52.10.10.1
4	+S BRUSH SINGLE SHOT	14A4	D10Q	52.10.07.1
5	-S BR SS LATCH	14A4	E09G	52.10.10.1
6	-S 100 USEC SS	14A4	F11A	52.10.07.1
7	+S RD REQ TRIGGER	14A4	D09F	52.10.07.1
8	+S RD PR REQ TRIGGER	14A4	A17P	52.10.01.1
9	+S RD SCAN TRIGGER	14A4	A16P	52.10.02.1
10	+S END OF SCAN TGR	14A4	J11P	51.32.01.1
11				
12				
13	+S SELECT UNIT 1	14A4	J25L	51.40.01.1
14	+S E CH INPUT MODE	14A4	H16L	51.40.02.1
15	+S READY TO BUFFER	14A4	H16Q	51.40.04.1
16	+S READ TRANSFER REQ	14A4	D08P	52.10.09.1
17	+S RD SCAN TRIGGER	14A4	A19Q	52.10.02.1
18	+S BUFFER STROBES	14A4	J20K	51.40.43.1
19	+S END OF TRANSFER	14A4	J25B	51.40.12.1
20	+S CORRECT TRANSFER	14A4	J25C	51.40.04.1
21	+S CPU TO I-O TRF	14A4	J16C	51.40.43.1
22	+S READ FEED	14A4	D07D	52.10.09.1
23				
24				
25				
26				
27				
28				
29				
30				



DATE	CHANGE NO
5-9-62	114762
11-9-62	115164
2-8-63	115209

DATE	CHANGE NO

DESIGN	L.L.	4-30-62	TYPE 1414
DETAIL	L.L.	4-30-62	SCALE NONE
CHECK	W.J.	5-3-62	DRAW VE 12-24-61
APPRO	W.J.	5-3-62	CHECK

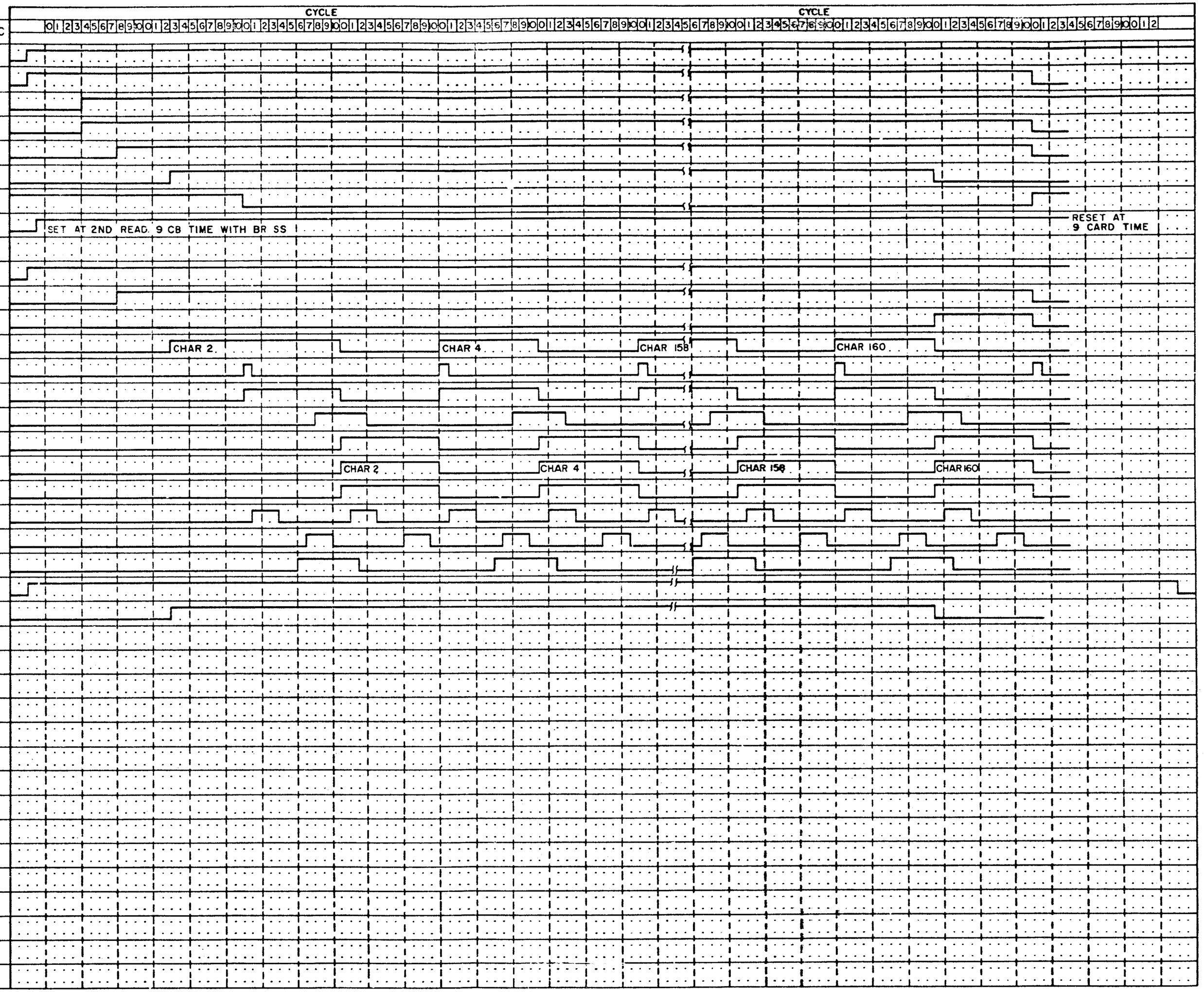
INTERNATIONAL BUSINESS MACHINES CORP

FIG READ - TIMING

FIGURE 51

730285

	SIGNAL NAME	FR GT	TP	LOGIC
1	SELECT UNIT 1			
2	RD REQ			
3	RD READY			
4	RD TRF REQ			
5	RD PRI REQ			
6	RD SCAN			
7	END OF SCAN			
8	READ COL-BINARY			
9				
10	4 CB			
11	RD PRI REQ			
12	GATE OFF RD PRI REQ			
13	RD SCAN			
14	RING ADVANCE			
15	GATE OFF RD SCAN ON RD 2			
16	BLOCK RING ADVANCE			
17	GATE ON RD SCAN OFF RD 2			
18	RD 2 SCAN			
19	BLOCK LY			
20	READ PULSE			
21	WRITE PULSE			
22	BLOCK DATA REG RESET 2			
23	9CB OR 3CB			
24	BLOCK STROBE PULSE OR T1			
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				



DATE	CHANGE NO.
11-9-62	115164
2-8-63	115209

DATE	CHANGE NO.

	NAME	DATE
APPRO		
CHECK		
DESIGN	[illegible]	7-27-62
DETAIL	[illegible]	7-27-62
CHECK		
DRAW	V.E.	8-3-62

INTERNATIONAL BUSINESS MACHINES CORP

TIMING

READ COLUMN BINARY

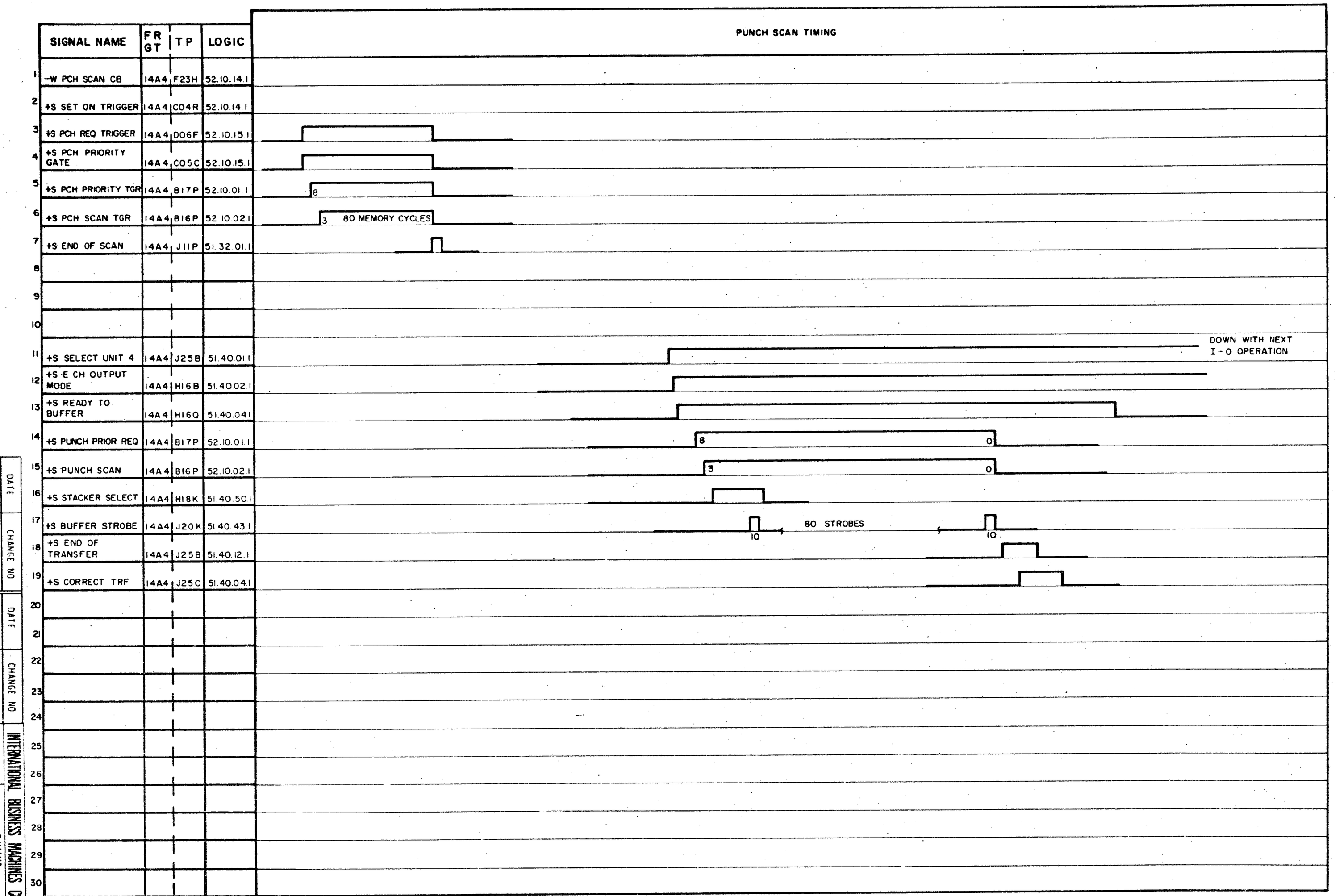
TYPE 1414

SCALE NONE

FIGURE 52

73 1961

	SIGNAL NAME	FR GT	TP	LOGIC
1	−W PCH SCAN CB	14A4	F23H	52.10.14.1
2	+S SET ON TRIGGER	14A4	C04R	52.10.14.1
3	+S PCH REQ TRIGGER	14A4	D06F	52.10.15.1
4	+S PCH PRIORITY GATE	14A4	C05C	52.10.15.1
5	+S PCH PRIORITY TGR	14A4	B17P	52.10.01.1
6	+S PCH SCAN TGR	14A4	B16P	52.10.02.1
7	+S END OF SCAN	14A4	J11P	51.32.01.1
8				
9				
10				
11	+S SELECT UNIT 4	14A4	J25B	51.40.01.1
12	+S E CH OUTPUT MODE	14A4	H16B	51.40.02.1
13	+S READY TO BUFFER	14A4	H16Q	51.40.04.1
14	+S PUNCH PRIOR REQ	14A4	B17P	52.10.01.1
15	+S PUNCH SCAN	14A4	B16P	52.10.02.1
16	+S STACKER SELECT	14A4	H18K	51.40.50.1
17	+S BUFFER STROBE	14A4	J20K	51.40.43.1
18	+S END OF TRANSFER	14A4	J25B	51.40.12.1
19	+S CORRECT TRF	14A4	J25C	51.40.04.1
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				



DATE	CHANGE NO
5-9-62	114762
11-9-62	11516 4

DATE	CHANGE NO

INTERNATIONAL BUSINESS MACHINES CORP

F10

PUNCH - TIMING

DESIGN	3-27-62	TYPE	1414
DETAIL	3-30-62	SCALE	NONE
CHECK	3-30-62	DRAW	
APPRO	5-3-62	CHECK	
		VE	12-29-61

FIGURE 53

730286

	SIGNAL NAME	FR GT	TP	LOGIC
1	SELECT UNIT 8 AND UNIT 4			
2	CPU TO I/O TRANSFER			
3	READY			
4	PCH TRANS REQ			
5	PCH PRI REQ			
6	PCH SCAN			
7	PCH TRANS SCAN			
8	PCH 2 TRANS SCAN			
9	END OF SCAN			
10	GATE OFF PCH SCAN ON PCH 2			
11	PCH 2 SCAN			
12	GATE ON PCH SCAN OFF PCH 2			
13	RING ADV			
14	BLOCK RING ADV			
15	BLOCK STROBE LATCH			
16	FORCE RING RESET			
17	DC RING RESET			
18	FORCE SERIAL SCAN			
19	PCH BREAK IN TRIG			
20	TENS RING AC SET			
21	UNITS SER CONTROL			
22	BUFFER STROBE			
23	BLOCK RI CPU			
24	END OF TRANSFER			
25	CORRECT TRANSFER			
26				
27				
28	PCH COL-BINARY			
29	EMITTER 4 TIME			
30	PCH 2 REQ			
31	PCH 2 SCAN			
32	PCH SCAN			
33	END OF SCAN			
34	BLOCK DATA REG RESET 2			
35				
36				
37				
38				
39				

CYCLE

CYCLE

DOWN WITH NEXT I/O OP

3 CHAR 1 0 CHAR 79

CHAR 81 0 CHAR 83 0 CHAR 85 0 CHAR 159

0 CHAR 2 0 CHAR 80

0 CHAR 82 0 CHAR 84 0 CHAR 86 0 CHAR 160

PUNCH BREAK IN

TOU9 TIU9 T2U9 T3U9

OPTION BUFFER TO PCH TRANSFER

(OTHER TIMINGS SAME AS ABOVE)

ON WITH CORRECT TRANSFER

RESET WITH AFTER 9 CAM

3 CHAR 2 0 CHAR 80

3 CHAR 82 0 CHAR 84 0 CHAR 86 0 CHAR 88 0 CHAR 158 0 CHAR 160

DATE	CHANGE NO.
11-9-62	115164
2-8-63	115209

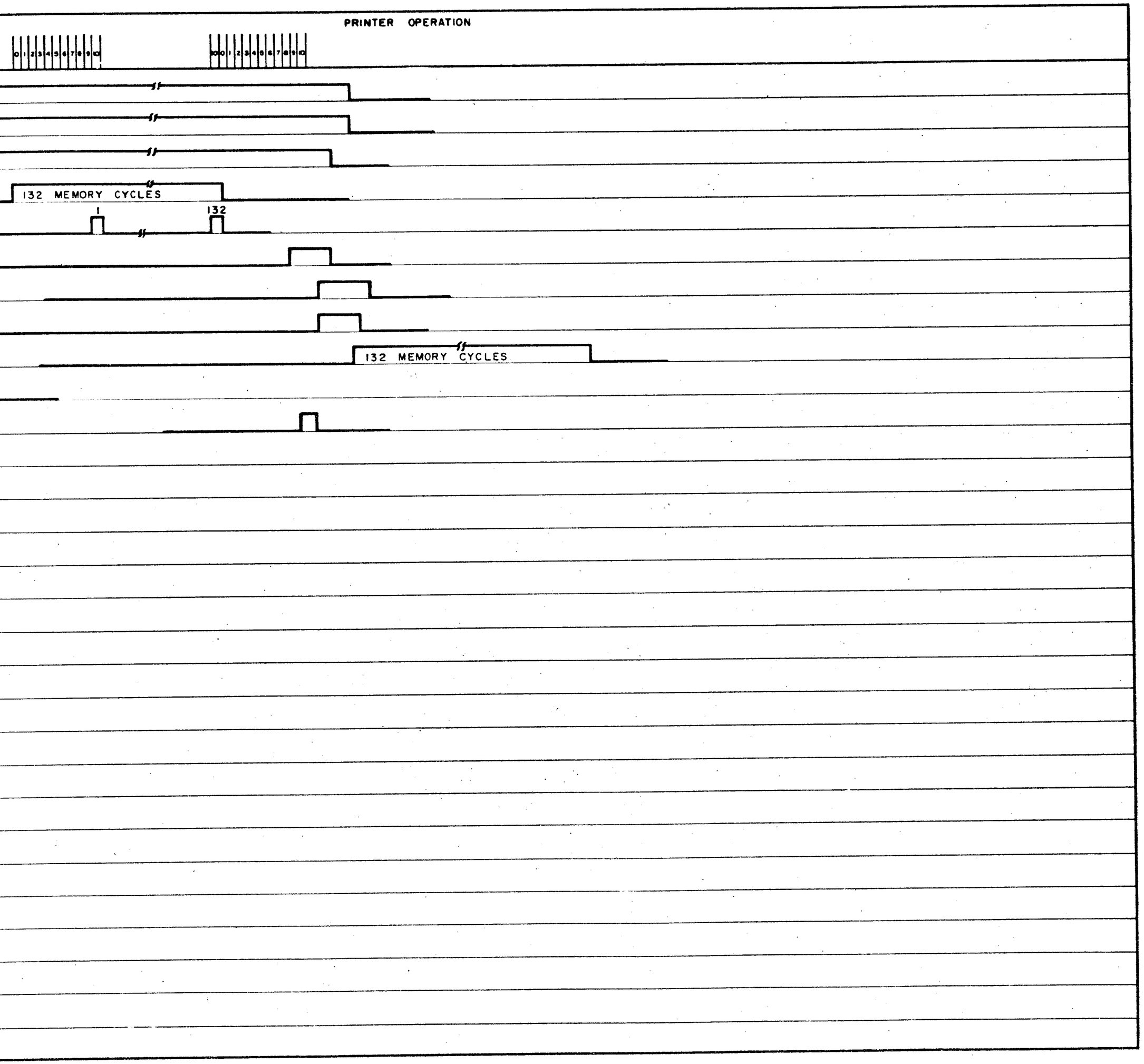
DATE	CHANGE NO.

APPRO		NAME	INTERNATIONAL BUSINESS MACHINES CORP
CHECK		DESIGN	TIMING PUNCH COLUMN BINARY
RAS	10-4-62	DETAIL EEP	7-23-62
CHECK		DRAW	SCALE NONE
	VE 2-14-63		TYPE 1414

FIGURE 34

731962

	SIGNAL NAME	FR GT	TP	LOGIC
1	SELECT UNIT 2	14A1	J16K	53.42.02.1
2	E CH OUTPUT MODE	14A3	D21P	53.50.04.1
3	READY TO BUFFER	14A1	F18Q	53.40.01.1
4	READ IN TRIGGER	14A1	F23F	53.40.01.1
5	BUFFER STROBE	14A4	J20K	51.40.43.1
6	END OF TRANSFER	14A4	J25B	51.40.12.1
7	(GO) CORRECT TRANSFER	14A1	F18K	53.40.01.1
8	SCAN CALL TRIGGER	14A1	F25P	53.40.01.1
9	SCAN TRIGGER	14A1	F23D	53.40.01.1
10	STATUS SAMPLE A	11D3		
11	STATUS SAMPLE B	11D3		
12				
13				
14				
15				
16				
17				
18				
19				
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21				
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24				
25				
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27				
28				
29				
30				



CHANGE NO	DATE
114762	5-9-62
115164	11-9-62

CHANGE NO	DATE

INTERNATIONAL BUSINESS MACHINES CORP

F10

PRINTER - TIMING

DESIGN	L.S.H.	30-62	TYPE 1414
DETAIL	L.S.H.	30-62	SCALE NONE
CHECK	[illegible]	8-62	DRAW VE 12-27-61
APPRO	[illegible]	3-62	CHECK

FIGURE 55

730287

	SIGNAL NAME	TEST POINT	LOGIC	SERIAL SCAN CONTROL
1	CLOCK 0 - TIME	14A4F18F	51.50.05.1	
2	SER SCAN	14A4G18D	51.50.06.1	
3	END OF SCAN	14A4C07K	51.50.04.1	
4	UNITS CONT	14A4E20Q	51.50.06.1	
5	TENS CONT	14A4F19E	51.50.06.1	
6	LWR Y	14A4F17F	51.50.05.1	
7	SER. SC. CONT	14A4F18G	51.50.05.1	
8	UNITS - 9	14A2G10A	51.31.08.1	
9	UNITS - 0	14A2G16H	51.31.01.1	
10	TENS - 0	14A2J16H	51.32.01.1	
11	TENS - 7	14A2G19K	51.32.09.1	
12	SER SC CT BIT	14A4F16E	51.50.05.1	
13	BL-INS-LY	14A4C24C	51.50.07.1	
14	SER DEV CT BIT	14A4F16D	51.50.05.1	
15	SER RG RES	14A4F18C	51.50.051	
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

DATE	CHANGE NO.
5-9-62	115164
11-9-62	114762

DATE	CHANGE NO.

INTERNATIONAL BUSINESS MACHINES CORP

NAME: SERIAL SCAN TIMING

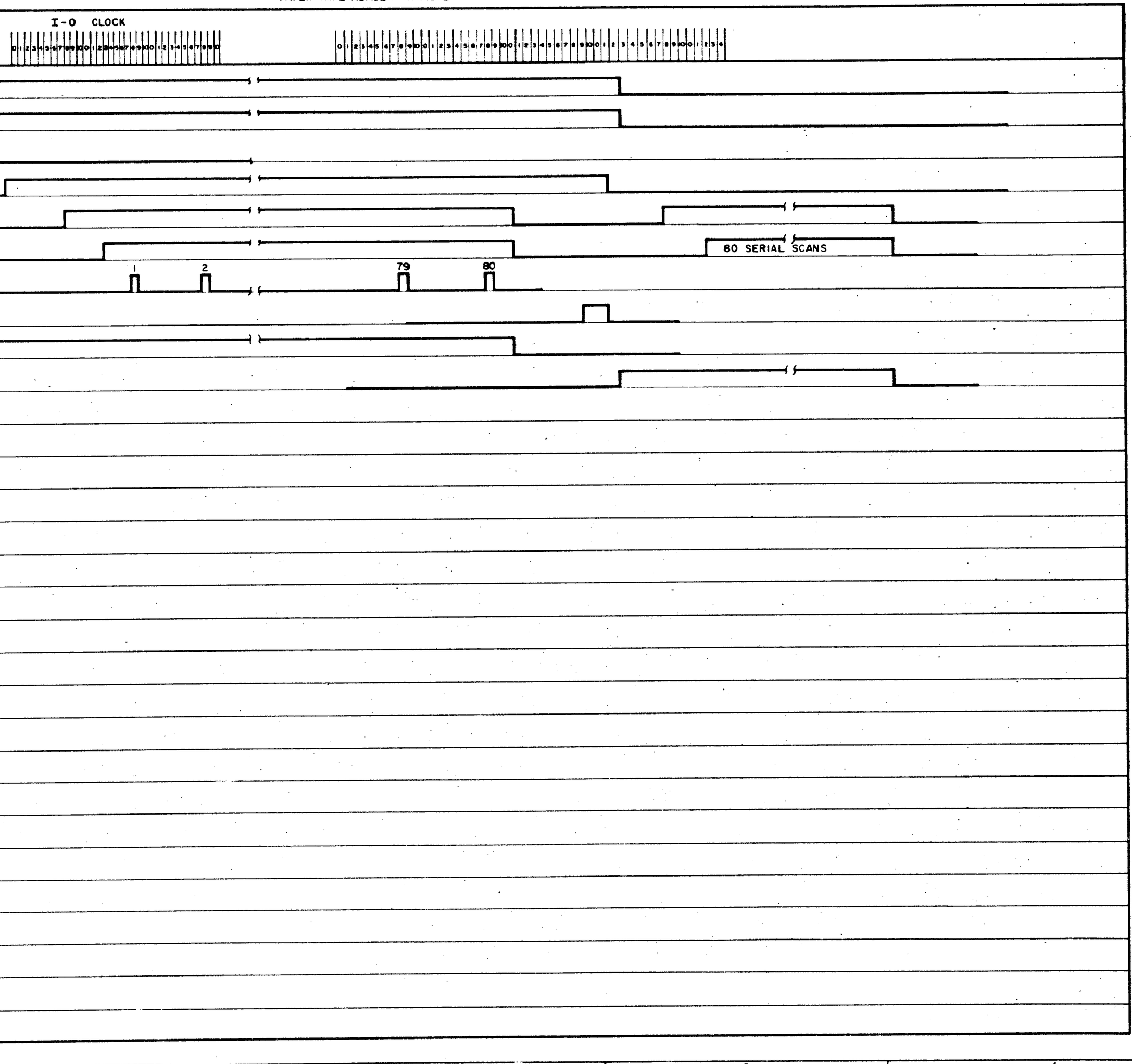
DESIGN	4-30-62	TYPE	1414
DETAIL	4-30-62	SCALE	NONE
CHECK	5-3-62	DRAW	VE 12-29-61
APPRO	5-3-62	CHECK	

FIGURE 56

730289

PAPER TAPE READER TRANSFER

	SIGNAL NAME	FR GT	TP	LOGIC
1	SELECT UNIT P	14C5	F06Q	55.10.04.1
2	E CH INPUT MODE	14C5	F06R	55.10.04.1
3	STATUS SAMPLE A	11D3		
4	READY TO BUFFER	14C5	F13K	55.10.06.1
5	PT SCAN REQUEST	14C5	E10C	55.10.07.1
6	PT READ SCAN	14C5	E07G	55.10.07.1
7	BUFFER STROBE	14A4	J20K	51.40.43.1
8	END OF TRANSFER	14A4	J25B	51.40.12.1
9	TRANSFER REQUEST	14C5	E13C	55.10.06.1
10	RD REQUEST	14C5	F14K	55.10.06.1
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				



CHANGE NO	DATE
114762	5-9-62
115164	11-9-62

CHANGE NO	DATE

INTERNATIONAL BUSINESS MACHINES CORP

FIG PAPER TAPE-TIMING

DESIGN	K.D	4-30-62	TYPE 1414
DETAIL	K.D	4-30-62	SCALE NONE
CHECK	[illegible]	5-3-62	DRAW V E 12-20-61
APPRO	[illegible]	5-3-62	CHECK

FIGURE 57

7302288

160 CH MESSAGE — 2 LB SIGNS INDICATE END OF MESSAGE

	SIGNAL NAME	FRGT	TP	LOGIC
1	I/O TRF 3 OR 4 TRIG	C 1,4,6	D17 D	56.40.40.1
2	TRANSMIT REC TRIG		E11 L	56.20.10.1
3	READY FROM CPU		A11 Q	56.30.10.1
4	TRF TRIG		F11 A	56.30.10.1
5	SCAN REQ TRIG		B11 C	56.30.20.1
6	SCAN TRIG		B10 C	56.30.20.1
7	UNIT CTRL I		F05 D	56.20.20.1
8	TRF SCAN ADV TRIG		D11 L	56.40.30.1
9	TURN ON REQ		A09 E	56.60.20.1
10	REQ TRIG		C14 Q	56.30.10.1
11	SER SCAN OUT		C15 C	56.30.30.1
12	CTRL BIT		C08 P	56.10.11.1
13	SET DATA LCH'S		E06 A	56.10.10.1
14	SERV RESP TRIG		F11 B	56.20.30.1
15	END OF SCAN		B20 P	56.30.20.1
16	WRITE CALL		E20 D	56.20.10.1
17	DATA TO 1009		F23 D	56.10.12.1
18	SERVICE REQ		C21 L	56.60.20.1
19	SELECT I/O ATTACH		F22 F	56.20.30.1
20	SER SCAN ADV		D11 C	56.40.30.1
21	BUSY		B20 D	56.40.20.1
22	SET BUSY		D19 D	56.50.10.1
23	IST LB DETECT		D14 A	56.50.11.1
24	DISC CTRL II		C14 C	56.50.11.1
25	DISCONNECT		F06 D	56.20.30.1
26	TRANSMIT RESET		D23 H	56.40.40.1
27	NO TRF TRIG		C14 L	56.40.20.1
28	RES DISC LATCH		E11 Q	56.40.40.1
29	STATUS RESET		B18 B	56.40.20.1
30	BLOCK LWR Y		E13 F	56.30.40.1
31	INITIALIZE LATCH	C 1,4,6	E13 D	56.20.20.1
32				
33				
34				
35				
36				
37				
38				
39				

CYCLE — CYCLE

A — (A)1 — (B)1 — A

B — A1 — 040 — 80 — B1 — B80 — * — *

1ST CH — 2ND CH — 80 — B1 — B80

BUFF A — BUFF B — BUFF A

2ND LB SIGN FROM CPU

1ST LB SIGN FROM BUFF

	DATE	CHANGE NO.
	11-9-62	115164

	DATE	CHANGE NO.

INTERNATIONAL BUSINESS MACHINES CORP

APPRO		NAME	1009 NORMAL TRANSMIT OPERATION TIMING
CHECK	[illegible]	DESIGN	[illegible] 6-1-62
DETAIL	[illegible]	TYPE	1414
CHECK	[illegible]	DRAW	VE 6-8-62
		SCALE	NONE

FIGURE 58

731963

81 CHAR MESSAGE

	SIGNAL NAME	FRGT	TP	LOGIC
1	EOT TRIG	C 1415	D17 H	5640401
2	TRANSMIT REC TRIG		E11 L	5620101
3	INITIAL TRIG		B09 D	5630301
4	TRF TRIG		F11 A	5630101
5	SCAN REQ TRIG		B11 C	5630201
6	SCAN TRIG		B10 C	5630201
7	INSERT LWR Y		B11 G	5650101
8	TRF SCAN ADV TRIG		D11 L	5640301
9	END OF SCAN		B20 P	5630201
10	UNIT CTRL II		F05 C	5620201
11	SERVICE REQ		C21 L	5660201
12	REQ TRIG		C14 Q	5630101
13	SET DATA LCH'S		E06 A	5610101
14	SERV RESP TRIG		F11 B	5620301
15	SERV RESP(TO 1009)		F21 F	5620101
16	SER SCAN IN		A16 D	5630301
17	CTRL BIT		C08 P	5610111
18	SER SCAN ADV		D11 C	5640301
19	BUSY		B20 D	5640201
20	READY FROM CPU		A11 Q	5630101
21	INITIALIZE LATCH		E13 D	5620201
22	I/O TRF 5		C21 B	5640401
23	NO TRF CTRL LATCH		D20 G	5640201
24	READ OP		A23 G	5650101
25	NO TRF TRIG		C14 L	5640201
26	INQ REQ		F14 G	5640201
27	RECEIVE RESET		A22 C	5640201
28	STATUS RESET		B18 B	5640201
29	TRF SCAN		A24 D	5630301
30	READ.CALL LCH		F21 D	5620201
31				
32				
33				
34				
35				
36				
37				
38				
39				

CYCLE CYCLE

13 USEC
1ST 80 81
DATA FROM 1009
5 USEC
A1 A80 B1
GATE DATA TO BUFF 040 80 B1
A B
DATA FROM BUFF TO CPU A B

	DATE	CHANGE NO.
	11-9-62	115164
	DATE	CHANGE NO.

	NAME	DATE
DESIGN	[illegible]	6-1-62
DETAIL	[illegible]	6-1-62
CHECK	[illegible]	10-24-62
APPRO	[illegible]	11-5-62
CHECK		

INTERNATIONAL BUSINESS MACHINES CORP

1009 RECEIVE OPERATION TIMING

TYPE 1414 | SCALE NONE | DRAW VE 6-6-62

FIGURE 59

731964

	SIGNAL NAME	FR GT E	TP	LOGIC
1	WRITE TO BUFFER (ON LINE ONLY)	14C E	C07 H	54.20.06
2	READY (ON LINE ONLY)		B16 H	54.20.06
3	OUT TRANS REQ		A11 B	54.20.06
4	OUT SCAN REQ		B17 Q	54.20.08
5	OUT SCAN		B22 C	54.20.08
6	GO (ON LINE ONLY)		A06 F	54.20.05
7	REPLY GO		A11 C	54.20.05
8	REPLY SAMPLE		D20 B	54.10.18
9	INITIAL DATA REQ		C09 C	54.10.10
10	SERIAL OUT REQ		C13 E	54.10.12
11	SERIAL SCAN OUT TRIG		B17 L	54.20.04
12	REPLY OUTPUT SAMPLE		B13 R	54.20.03
13	REPLY		D15 B	54.10.10
14	STATION SELECT		E05 E	54.10.10
15	STATION SELECT SET		D06 R	54.10.10
16	S.S. 1 (4 MS)		A17 C	54.10.11
17	S.S. 2 (10 USEC)		D20 F	54.10.11
18	S.S. 3 (1.5MS)		B11 D	54.10.11
19	1 COUNT		D17 C	54.10.17
20	2 COUNT		D17 B	54.10.17
21	4 COUNT		E17 C	54.10.17
22	SYNC LINE		F23 R	54.10.22
23	DATA LINE		F23 P	54.10.22
24				
25	EOR		F07 L	54.10.13
26	EOR CTRL		B08 C	54.10.18
27	WRITE INQUIRY (RESET EOR)		C05 K	54.20.02
28	END OF REPLY S.S.(140 MS)		D21 K	54.10.18
29	END OF REPLY S.S. DELAY (20 MS)		D11 K	54.10.18
30	REQ SAMPLE S.S. (20 MS)		F26 C	54.10.18
31				
32				
33				
34				
35				
36				
37				
38				
39				

STATION SELECT CYCLE — EIEST CHARACTER TRANSMIT CYCLE — LAST CHARACTER END OF REPLY

080 030 880 USEC. EOS 080 030 EOS 080 030 EOS 20 MS 7C2 7C2 040 EOR CTRL 8C3

SYNC XMIT 12 BIT SYNC XMIT CBIT SYNC XMIT PRINT SYNC XMIT PRINT

+48 V −48 V +48 V −48 V

R1 R2A R2 R5 T1 R2

EOR

	DATE	CHANGE NO.
	11-9-62	115164
	DATE	CHANGE NO.

	NAME	DATE
DESIGN	[illegible]	6-1-62
DETAIL	[illegible]	6-1-62
CHECK	J.P.R.	6-1-62
DRAW	VE	6-6-62
CHECK		
APPRO		

TYPE	1414
SCALE	NONE

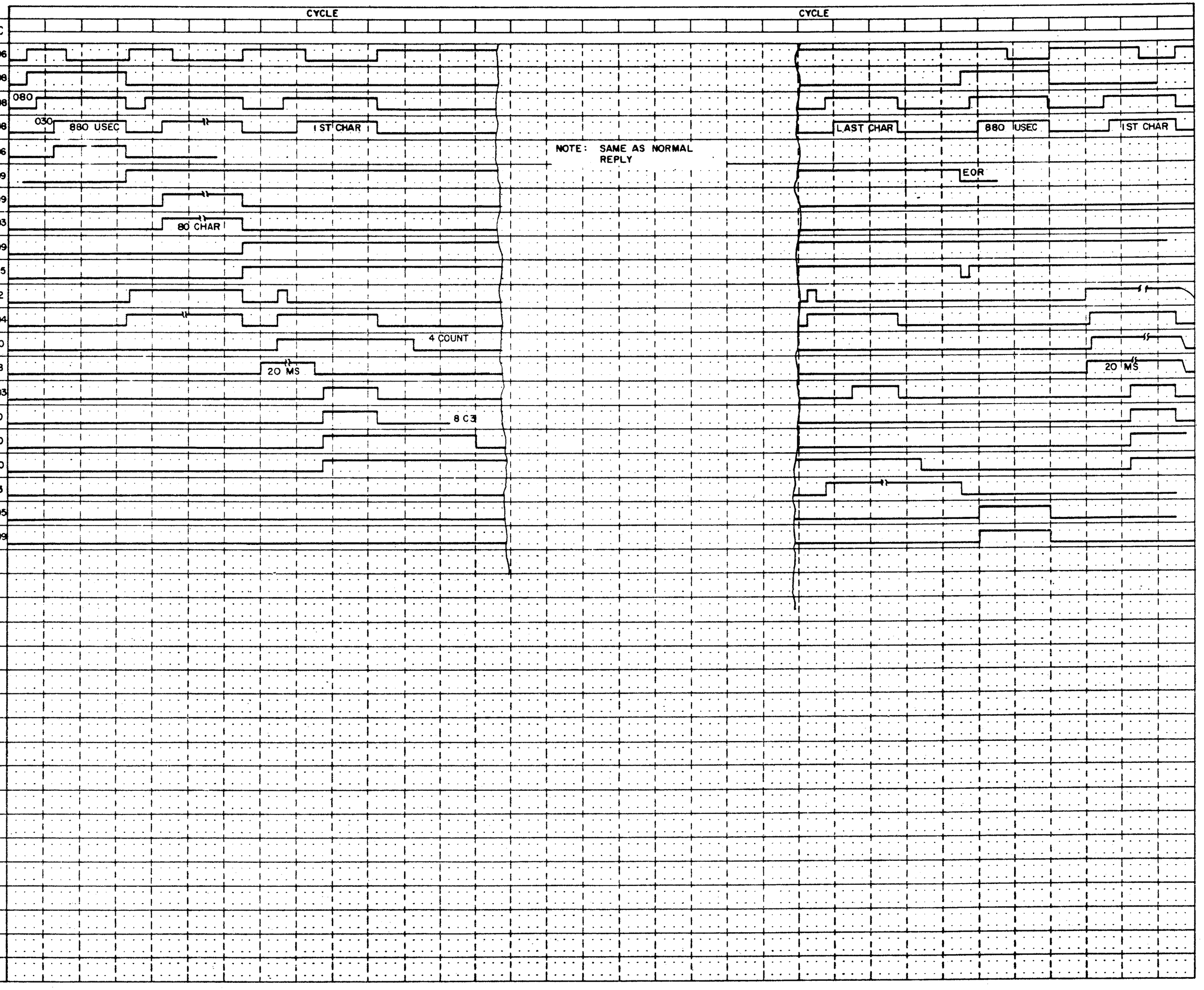
INTERNATIONAL BUSINESS MACHINES CORP

1104 NORMAL REPLY TIMING

FIGURE 61

7 31966

	SIGNAL NAME	FR GT	TP	LOGIC
1	CE GO	14C E	C11 F	54.20.06
2	OUTTRAN REQ		A11 B	54.20.08
3	OUT SCAN REQ		B17 Q	54.20.08
4	OUT SCAN		B22 C	54.20.08
5	INSERT LYS		C10 K	54.20.06
6	FORMAT CTRL I		D20 D	54.20.09
7	CE DIGIT INSERT		A13 K	54.20.09
8	SERIAL SCAN IN		B11 R	54.20.03
9	FORMAT CTRL II		C21 P	54.20.09
10	REPLY GO		A11 C	54.20.05
11	SER OUT REQ		C13 E	54.10.12
12	SERIAL SCAN OUT TRIG		B17 L	54.20.04
13	INITIAL DATA REQ		C09 C	54.10.10
14	REPLY SAMPLE		D20 B	54.10.18
15	REPLY OUTPUT SAMPLE		B13 R	54.20.03
16	STATION SELECT SET		D06 R	54.10.10
17	STATION SELECT		E05 E	54.10.10
18	REPLY		D15 B	54.10.10
19	EOR		F07 L	54.10.13
20	BLOCK LYS		C18 G	54.20.05
21	REGENERATE AND INVERT CBIT		C22 K	54.20.09
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				



CHANGE NO.	DATE
115164	11-9-62

CHANGE NO.	DATE

	NAME	DATE
DESIGN	ESP	4-1-62
DETAIL	ESP	4-1-62
CHECK	JPB	10 10 62
APPRO	[illegible]	10 12 62
CHECK		

INTERNATIONAL BUSINESS MACHINES CORP

1014 OFF LINE REPLY TIMING

TYPE	SCALE	DRAW	CHECK
1414	NONE	VE	6-6-62

FIGURE 62

731967

	SIGNAL NAME	TEST POINT	LOGIC
	TLG RECEIVE		
1	XFER SCAN	14CAE22A	57.01.09.1
2	COR = XFER CPU	14CAD03H	57.01.09.1
3	NO XFER	14CAD03A	57.01.10.1
4	REC-REQ	14CAD19R	57.01.06.1
5	BUSY	14CAD15D	57.01.08.1
6	READ PULSE	14CAD19F	57.01.03.01
7	START CHAR	14CAF13R	57.01.03.1
8	TEXT	14CAF09P	57.01.04.1
9	STOP CHAR	14CAE11A	57.01.03.1
10	TLG SER SCAN	14CAC12K	57.01.07.1
	TLG SEND		
1	XFER SCAN	14CAC06R	57.02.16.1
2	CORRECT XFER	14CAA06D	57.02.14.1
3	BID	14CAC20C	57.02.15.1
4	INSERT	14CAB13P	57.02.15.1
5	READY	14CAD19D	57.02.14.1
6	CYCLE TMG	14CAB03F	57.02.14.1
7	TLG SCAN (SER)	14CAC12C	57.02.16.1
8	FIGS	14CAC13P	57.02.14.1
9	LTRS	14CAC13B	57.02.14.1
10	GROUP MK	14CAB17G	57.02.15.1
11	LINE DIS CON	14CAA08G	57.02.15.1
12	START	14CAB07D	57.02.11.1

	DATE	CHANGE NO
	5-9-62	114762
	11-9-62	115164

	DATE	CHANGE NO

DESIGN	K. J. Yost 10-62
DETAIL	K. J. Yost 10-62
CHECK	K. J. Yost 10-62
APPRO	[illegible] 10-31-62

TYPE	1414
SCALE	NONE
DRAW	VE 12-29-61
CHECK	

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FIG TLG-TIMING

FIGURE 63

730290